Royal Geographical Society
of Australasia. South
Australian Branch
Proceedings

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1918/19

Royal Geographical Society of Australasia:

SOUTH AUSTRALIAN BRANCH
(INCORPORATED)

PROCEEDINGS OF THE SOCIETY

FOR THE

SESSION 1918-19.

VOL. XX.

The Council desire it to be understood that in giving publicity to the Papers read before the Society, or printed in their proceedings, they accept no responsibility for opinions or statements expressed therein.

Adelaide
C. H. Wildy, Printer, 36 Waymouth Street.

1921.

PROCEEDINGS

OF THE

ROYAL GEOGRAPHICAL SOCIETY OF AUSTRALASIA.

SOUTH AUSTRALIAN BRANCH

(INCORPORATED).

With Illustrations, from Photographs &c., and Maps.

SESSION 1918-19.

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C. H. WILDY, PRINTER, 36 WAYMOUTH STREET,

1921.

The Royal Geographical Society of Australasia, South Australian Branch, Incorporated. was founded at a meeting of gentlemen held at the Town Hall, Adelaide, on the 10th July, 1885. It is substantially an autonomous Society.

The Society's Rooms, in which the

"YORK GATE LIBRARY"

is housed, are located in the Old Institute Building, North Terrace, to the east of the Government House Wall, and west of the Public Library. The entrance is from Kintore Avenue.

The famed London collection of Literature of Geography, Maritime and Inland Discovery, Travels, Commerce, Natural History, and British Colonization, founded by the late Mr. S. William Silver, of York Gate, Regent's Park, London, was purchased by the Society from his widow.

The reference Library, which cost about £6,000—contains over 9,000 volumes, is available to members of the Society and to Students on Tuesdays and Thursdays from 2 to 4 p.m.

The Lecture Room of the Society is on the upper floor in the same buiding, and is furnished with an Epidiascope—the first introduced into Australia—for the purpose of providing illustrated lectures, which are free to members of the Society.

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Royal Geographical Society of Australasia.

SOUTH AUSTRALIAN BRANCH,

(INCORPORATED).

YEAR 1918-19.

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Thirty Years in Tropical Australia, by Bishop White,
Monographs of the Geology of Brazil.
Manufacturing in Philadelphia.
Australia in Palestine.
The Australian Environment and Rainfall.
Commonwealth Science and Industry.
Island Reminiscences (Trood).
Pacific Island Handbook (Stewart).
Tables for Almacanter Observations.
South Australian Records (Opie).
Masters of the Wilderness.
False Coins and How to Discover Them.
The Elephant on Coins.
A Band of Pioneers (Newland).
Farming and Planting in British East Africa.

M.S. Original Letter of Captain Charles Sturt,
Norman A. Richardson.
Two Framed Groups of Old Colonists, and Four Framed Souvenirs of the Commonwealth Inauguration, from Hon. J. Lewis, President.
Cartoon, "Unconquerable," Proprietors of "Punch."
Souvenir Medal of Sydney-Emden Engagement,
Captain Glossop
Specimen of Meat Extract made by the late Colonel Warburton in 1872, per Mrs. A. T. Magarey.

PROCEEDINGS

OF THE

Royal Geographical Society of Australasia.

SOUTH AUSTRALIAN BRANCH.

(INCORPORATED).

THIRTY-SECOND SESSION, 1918-19.

COUNCIL MEETING.

October 28, 1918.

Present—Nine. Two apologies.

The Minutes of the last meeting were read and confirmed.

The following new members were elected, viz.: Mr. W. G. Hawkes, J.P., Mr. W. H. Hall, and Mr. W. Gilbert.

A gift of £400 South Australian Inscribed Stock from the Hon. J. Lewis, on certain conditions, was reported. The seal of the Society was affixed to the agreement, in accordance with a resolution of the Council, by two seal-holders, and on the motion of Sir Langdon Bonython, seconded by Mr. E. M. Smith, I.S.O., the thanks of the Council were presented to the President for his generous benefaction.

The thanks of the Council were passed to His Honour Mr. Justice Buchanan for the gift of a number of volumes, principally relating to South Africa, and to Mr. E. H. Limbert for a Map of South Australia, formerly belonging to Mr. Morris, of Anlaby.

The Secretary having reported that the phonographic records of Aboriginal ceremonies has been inspected by Professors Rennie and Osborne, who had suggested certain precautions for their preservation, he was authorized to incur whatever expense might be necessary to carry out these suggestions.

A Manuscript Catalogue of Books, &c., in the Library, which had been prepared by the Secretary, was laid on the table and inspected by members of the Council.

SPECIAL GENERAL MEETING.

October 28, 1918.

The President, Hon. J. Lewis, stated that the object of the meeting was the election of a representative of the Society as a member of the Board of Governors of the Public Library, &c. He read a duly signed nomination of Mr. W. B. Wilkinson, and there being no other nomination, declared Mr. Wilkinson to be duly elected.

A cordial vote of thanks was passed to Mr. Wilkinson for his past services on the Board of Governors, to which he briefly responded.

ANNUAL GENERAL MEETING.

October 28, 1918.

The President, Hon. J. Lewis, M.L.C., presided, and after some introductory general observations, submitted his Annual Address, the subject of which was "The Western Coast of South Australia."

The Treasurer presented the Financial Statement, which showed:

Income, 1917-18 (inclusive of Legacy interest)..	£276	17	8
Expenditure, do. do.	277	19	11
Balance in Bank..	7	11	4
Approximate value of Assets over Liabilities..	3,725	12	11

On the motion of Canon Murphy, seconded by Captain S. A. White, the Officers and Council were re-elected for the coming year, with the substitution of the name of Mr. C. R. J. Glover (Lord Mayor of Adelaide) for that of Mr. T. L. Browne (resigned).

The cordial thanks of the meeting were accorded to the Hon. Auditors, Mr. L. H. Sholl, C.M.G., I.S.O., and Mr. R. G. Neill, for their past services, and they were re-elected.

Dr. Burgess moved and Captain S. A. White seconded that the Hon. J. Lewis be elected a Life Member in recognition of his numerous munificent gifts to the Society. The motion was carried unanimously.

COUNCIL MEETING.

December 21, 1918.

Present—Fourteen.

The Treasurer presented a financial statement showing Balance in Bank £199, and unpaid accounts of about equal amount. The accounts were passed for payment, subject to approval by the President and Treasurer.

A cordial vote of thanks was passed to the President (Hon. J. Lewis) for defraying the cost of the Common Seal of the Society, and his gift of a despatch-bag, made in Central Australia, and used by him on the estafette during the construction of the Transcontinental telegraph line.

The President having requested leave of absence for six months to visit America and Europe, the request was acceded to, and he was given a letter of introduction to other Geographical Societies he may come in contact with.

COUNCIL MEETING.

May 14, 1919.

Present: Mr. E. M. Smith, I.S.O. (Vice-President), and ten others. Two apologies.

Authority was given to purchase certain books and frame presentation maps, &c.

It was resolved to arrange for a series of Lectures during the winter months, and a Committee of five members was appointed to settle details.

A communication was received from the President relating to the log-books of whalers from American ports to the south coast of Australia in the early days.

Attention was called to reports of an ancient wreck on the Queensland coast, and it was agreed to ask the Queensland Geographical Society to investigate.

Gifts were received and acknowledged as follows: Souvenir Medal of the Sydney-Emden Engagement of November 9, 1914, from Captain Glossop; Booklet, "A Band of Pioneers," by Mr. S. Newland; Block of "meat extract," in excellent preservation, made by the late Col. Warburton about 1872, with letter from the late Sir S. Davenport, per Mrs. A. T. Magarey.

Reference was made to the proposed Captain Cadell Memorial at Goolwa, and also to the reports of mutiny and murder, which ended the great pioneer's career, and concerning which it was resolved to seek further information.

Mr. A. S. H. Crouch was elected a member.

COUNCIL MEETING.

September 9, 1919.

Present: Hon. J. Lewis (in the chair), and ten others. Three apologies.

The President was cordially welcomed on his return to Adelaide after a trip round the world. In responding to the compliment, he gave some account of his visits to kindred societies in other lands.

The following new members were elected: Mr. G. J. Abernethy, Mr. C. L. L. Morisett, and Mr. Arthur Treloar.

The Lectures Committee reported that four lectures had been arranged for, and that those already held had been well attended and successful. The Lecturers were Major Newland, O.B.E., Sir William Sowden, Sir Douglas Mawson, and Mr. S. Newland, J.P.

The correspondence read included a letter of thanks from Lord Jellicoe for the gift of the biography of Colonel Light and other publications of the Society.

PROCEEDINGS

OF THE

Royal Geographical Society of Australasia.

SOUTH AUSTRALIAN BRANCH

(INCORPORATED).

THIRTY-SECOND SESSION, 1918-19.

THE ANNUAL ADDRESS OF THE PRESIDENT

(The Hon. John Lewis, M.L.C.),
on October 30, 1919.

Last year when I was honoured by your re-electing me for the sixth consecutive year as your President, you also very graciously extended to me eight months' leave of absence.

I left Adelaide for Sydney on December 18th, 1918, and, after visiting a station in the western districts of N.S.W., returned to Sydney and embarked on the Japanese steamer s.s. "Kitano Maru" on December 28th.

I arrived in Brisbane on December 30th, and was unfortunately detained there for three weeks with a painful affection of the eyes, necessitating keeping to my room for about ten days. The weather in Brisbane was very hot and trying. Before leaving, I paid a visit to the rooms of the Brisbane Branch of the Royal Geographical Society, and saw their library and collection of historical relics.

Although a visit to Japan was included in my itinerary, I was reluctantly compelled to abandon that portion of my travels, and returned to Sydney in time to embark on the s.s. "Sonoma," sailing for San Francisco on January 23rd, 1919. When only a day and night out, unfortunately, some trouble occurred with the starboard propeller, and the captain decided to put back to Sydney to ascertain exactly what the matter was. The "Sonoma" was thereupon berthed in dry dock at Cockatoo Island for several days, and it was not until January 29th that we finally sailed from Australia.

On February 23rd I arrived in San Francisco, and my first enquiries were concerning kindred societies to our own. I soon ascertained that in Los Angeles there is neither a Geographical nor an Historical Society, but in San Francisco they have allotted a portion of the Museum at the Golden Gate Park for portraits of their pioneers.

At Los Angeles I was pleased to meet Mr. A. M. Chaffey (a son of Mr. George Chaffey, of Mildura fame), who takes a very great interest in historical works concerning Australia. He showed me a lot of very interesting extracts from old directories and almanacs of New South Wales, which he had collected.

After remaining in Los Angeles for four days, I proceeded to Chicago, spending a day en route at the Grand Canyon of Arizona.

I visited various libraries and museums in Chicago, remaining there for four days, and then proceeded to New York, via Cleveland.

On March 31st, I visited the Library of the American Geographical Society of New York, and was greatly interested in the very extensive collection of literature available to the members of that institution. Unfortunately, the President was out of town, and as I had arranged to leave for London on the following day, I did not have the pleasure of meeting him, but the Associate Editor kindly escorted me over the building. He was acquainted with our Proceedings, and expressed himself as being pleased with the information contained in them.

Keeping in mind the visits to the South Coast of Australia (after Captain Flinders in 1802) by American whalers, and their calling at Port Lincoln and Memory Cove, I made written enquiries respecting "whaling logs" which might be stored in the archives of the American libraries, and the possibility of some captain having made a copy of the full inscription left by Captain Flinders on the plate erected in Memory Cove, but I regret my hurried enquiries did not elicit any information on the point desired. There is yet hope that amongst the many logs which are preserved in the American libraries there is still lurking the missing words that we are all so much interested in.

The American Geographical Society of New York does not appear to have any logs of American whalers.

The Librarian of the Free Public Library, New Bedford, Mass. (Mr. George H. Tripp), referred me to Starbuck's "History of American Whale Fishery," in which there are several references to the coast of Australia from whaling logs. He quoted as follows:—"Page 377 refers to a ship 'Sharon,' Fairhaven, which put into Sidney (sic.), December 22 (year not stated), the crew having mutinied and killed Captain Morris. A somewhat full account of this famous mutiny is given in Spear's 'Story of the New England Whalers.' On page 395, the ship 'North America' of Warren, R.I., lost at Swan River, New South Wales, April 15, 1842. On page 414, George Champlin, of Newport, R.I. (1844) shipped from Sydney 500 barrels sperm oil; 21,000 pounds of bone to London, changed her name to 'Sacremento' and went in the California trade, 1851."

Mr. Tripp said they had a large number of whaling logs, which he would have examined, but he said the average whaling log is devoid of geographical detail, and the entries are usually short and entirely devoted to wind and weather, and success or failure in getting whales.

The Essex Institute, Salem, Massachusetts (Alice G. Waters, Librarian), also kindly replied to my enquiries, as follows:—"The Essex Institute has a collection of about 1,500 log books, and in some cases there are several logs bound in one volume, so that the number of voyages must be nearly 2,000, but comparatively few of them are whaling voyages. However, this could not be definitely stated without making a careful examination of all the cards for the period between 1830 and 1845, which would entail quite a little labour. If you desire to have this done, we can employ a young lady who does special work for us to make the search, at a nominal fee. We would be very glad to assist you in this matter. All of the log books of the Peabody Museum have been deposited here."

I left New York on April 1st, 1919, arriving at Liverpool on 11th, and proceeded to London.

While in London, I visited the Royal Geographical Society rooms, and was entertained at a club dinner, and also at the annual dinner of the Royal Geographical Society. They were very pleased at receiving the Proceedings from our branch, and seemed to take a great interest in them. A paragraph appeared in one of the English papers about the South Australian Branch. They showed me this paragraph when I visited the rooms soon after my arrival, but I have unfortunately forgotten what it contained.

In May I visited France, and while in Paris renewed my acquaintance with the Comte de Fleurieu, who has visited our rooms in Adelaide, and is much interested in the early history of South Australia.

After a stay of three months in England, I embarked at Glasgow on H.M.A.T. "Ulysses" on July 18th, and arrived in South Australia on August 30th last, after an absence of just over eight months.

THE SOUTH AUSTRALIAN COASTLINE.

The original detailed account of the voyage and discoveries of H.M.S. "Investigator" on the south-western coast, between the Great Australian Bight and Port Lincoln, by Captain Matthew Flinders, R.N. was, as you are aware, reprinted in a convenient form in the address of last year.

As that portion dealt only with the South Australian coastal district west of Port Lincoln, I have thought it desirable to continue the journal of Captain Flinders so as to embrace the whole coastline of this State, including the Gulfs of St. Vincent and Spencer, and Kangaroo Island. Therefore, by putting the addresses of last year and this year together you will find the full notes of the discovery made by the "Investigator" between the 129th and the 141st degrees of east longitude, the lastnamed point being the eastern boundary of South Australia.

A reference to the "Chart of Terra Australis or Australia" by Captain Flinders—printed last year—will show that the names given by the French navigators to the various capes between Cape Jervis and Cape Northumberland were carefully retained by Flinders. These were Capes Bernouilli, Jaffa, Lannes, and Buffon; Capes Northumberland and Bridgewater having been named by Lieutenant Grant of H.M.S. "Nelson" in 1801, prior to the visit of the "Investigator" to the southern coast.

I trust the day is not far distant when the people of South Australia will realize what they owe to Captain Matthew Flinders, and will erect a fitting statue in a conspicuous place in the city. The vantage ground of this statue should have a clear view of Mount Lofty, the summit of which Flinders named from Kangaroo Head, Kangaroo Island, on March 23rd, 1802, as is shown by his journal, page 22 herein.

In the address of last year the journal of Captain Flinders stopped at Port Lincoln, on March 6th, 1802, when he landed at Cape Donnington. After remaining there for a few hours he proceeded northwards to examine the shores of Spencer's Gulf. In that portion of the journal of Captain Flinders which is continued herein, the coastline is followed to Encounter Bay, where the French expedition of discovery, under the command of Captain Baudin, met Flinders in latitude 35 deg. 40 min. S. and longitude 138 deg. 58 min. E.

In the words of Flinders "The discoveries made by Captain Baudin upon the south coast have their termination to the west; as mine in the 'Investigator' have to the eastward." These few words clearly indicate that at Encounter Bay the discoveries of both navigators practically ended.

Flinders' Journal then continues:—

At ten in the morning of March 6th, we sailed out of Port Lincoln, and skirted along the east side of Boston Island and the entrance of Louth Bay. In the afternoon we passed within two miles of Point Bolingbroke; and at six in the evening came to an anchor in 10 fathoms, off the north side of Kirkby Island, which is the nearest to the point of any of Sir Joseph Banks' Group, and had been seen from Stamford Hill. A boat was lowered down to sound about the ship, and I went on shore to take bearings of the different islands, but they proved to be so numerous that the whole could not be completed before dark.

I landed again in the morning with the botanical gentlemen, taking Arnold's watch and the necessary instruments for ascertaining the latitude and longitude. Twelve other isles of the group were counted, and three rocks above water; and it is possible that some others may exist to the eastward, beyond the boundary of my horizon, for it was not extensive. The largest island seen is four or five miles long, and is low and sandy, except at the north-east and south ends; it was called Reevesby Island, and names were applied in the chart to each of the other isles composing this group. The main coast extended northward from Point Bolingbroke, but the furthest part visible from the top of Kirkby Island was not more than four or five leagues distant; its bearing and those of the objects most important to the connection of the survey were these:—

		Deg.	Min.	
Main coast, furthest extreme	N.	13	40	E.
Point Bolingbroke	N.	86	50	W.
Stamford Hill, station on the north end	S.	45	17	W.
Thistle's Island, centre of the high land	S.	5	37	W.
Sibsey Island, extremes S. 16 deg. 27 min. to		13	2	W.
Stickney Island S. 18 deg. 30 min. to		22	40	E.
Spilsby Island S. 39 deg. 30 min. to		48	25	E.

Granite forms the basis of Kirkby Island, as it does of the neighbouring parts of the continent before examined; and it is in the same manner covered with a stratum of calcareous rock. The island was destitute of wood, and almost of shrubs; and although there were marks of it having been frequented by geese, none of the birds were seen, nor any other species of animal except a few hair seals upon the shore. This description, unfavourable as it is, seemed applicable to all the group, with the exception of Reevesby and Spilsby Islands, which are higher and of greater extent and probably somewhat more productive.

The latitude of the north side of Kirkby Island, observed from an artificial horizon, was 34 deg. 33 min. 1 sec. south, and longitude by time keepers, 136 deg. 10 min. 8 sec. east. The variation from azimuths taken on board the ship at anchor, with the head south-by-west (magnetic as usual), was 2 deg. 40 min. east; which corrected to the meridian, would be 2 deg. 2 min. east, the same nearly as was observed in Memory Cove, and at the entrance of Port Lincoln; but an amplitude taken on shore with the surveying theodolite, gave 3 deg. 57 min.

east. This seemed extraordinary when, except at Point Donnington, no local attraction of importance had been found in the shores of Port Lincoln, where the stone is the same. It was however corroborated by the bearings, for that of Stamford Hill, with 3 deg. 57 min. allowed, differed only 2 deg. from the back bearing with the allowance of 1 deg.. 39 min. which is a nearer coincidence than I have generally been able to obtain.

At two in the afternoon the anchor was weighed, and leaving most of Sir Joseph Banks' Group to the right, we steered northward, following the direction of the main land. The coast is very low and commonly sandy, from Boston Bay to the furthest extreme seen from Kirkby Island; but a ridge of hills, commencing at North-side Hill in Port Lincoln, runs a few miles behind it. In latitude 34 deg. 20 min. this ridge approaches the water side, and in its course northward keeps nearly parallel at the distance of two or three miles. It is moderately elevated, level, destitute of vegetation, and appeared to be granitic. At half past six, when we hauled off for the night, the shore was five or six miles distant; the furthest part bore N.N.E.½E., and a bluff inland mountain was set at N. 71 deg. W., over the top of the front ridge.

The wind was moderate from the south-eastward; and at seven on the following morning, when the bluff inland mountain was bearing W. 2 deg. N., we resumed our north-eastern course along the shore; which was distant seven miles, and had not changed its appearance. Towards noon the water shoaled to 6 fathoms, at three miles from a sandy beach; a lagoon was visible from the masthead, over the beach, and a small inlet, apparently connected with it, was perceived soon afterward. A few miles short of this, the ridge of hills turns suddenly from the shore, and sweeps round at the back of the lagoon, into which the waters running off the ridge appeared to be received. The corner hill, where the direction of the ridge is changed, was called Elbow Hill; and since losing sight of the bluff inland mount, it was the first distinguishable mark which had presented itself for the survey; it lies in latitude 33 deg. 43 min., and longitude 136 deg. 42 min. The coast there trends nearly east-by-north, and obliged us to haul close to the wind, in soundings of 7 to 9 fathoms.

We had then advanced more than twenty-five leagues to the north-north-east from Cape Catastrophe; but although nothing had been seen to destroy the hopes formed from the tides and direction of the coast near that cape, they were yet considerably damped by the want of boldness in the shores, and the shallowness of the water; neither of which seemed to belong to a channel capable of leading us into the Gulf of Carpentaria, nor yet to any very great distance inland.

At two o'clock the shore again took a northern direction, but it was still very low in front, and the depth did not materially increase. Land was presently distinguished on the starboard bow and beam; and before four, an elevated part, called Barn Hill from the form of its top, bore E. 4 deg. N. We continued to follow the line of the western shore, steering north-north-east and north; and the wind being at south, we hauled north-westward at six o'clock, intending to anchor under the shelter of the land. From 7 fathoms, the depth diminished to 5, and quickly to 17 feet; upon which we veered round, ran back into 5 fathoms, and came to an anchor three or four miles off the shore, on a sandy bottom. The wind blew fresh, with rainy squalls; but a whole cable being veered out, we rode smoothly all night. The furthest land visible to the northward consisted of detached hummocks, of which the highest was called Mount Young, in honour of the admiral. Abreast of the ship the land rose gradually from the beach to the ridge of hills which still continued to run behind it; but at this place some back hills were visible over the ridge, and the highest of several hummocks upon the top, which served as a mark in the survey, was named Middle Mount. Observations for the time keepers were taken in the morning before getting under weigh, and the situation of the anchorage was found to be in

		Deg.	Min.
Longitude		137	27½
Mount Young bore	N.	11	E.
Middle Mount	N.	62½	W.
Low western shore, extreme	S.	21	W.
High eastern land, about the middle	N.	71	E.

Having obtained the observations, we steered for the outermost of the northern hummocks, with soundings gradually increasing to 12 fathoms; but shoaling on a sudden to 7, upon coral, we hauled to the wind and tacked instantly; finding, however, that the depth did not further decrease, I let the ship go entirely round, and continued the former north-eastern course, with soundings from 7 to 9 fathoms.

At noon the furthest hummock seen from the anchorage was distant four or five miles; it stands on a projection of low sandy land, and beyond it was another similar projection to which I gave the name of Point Lowly. This was the furthest visible part of the western shore; but the eastern land there approached within seven or eight miles, and extended northward, past it, in a chain of rugged mountains, at the further end of which was a remarkable peak. Our situation and bearings at this time were as follow:—

		Deg.	Min.	Sc.
Latitude, observed to the north and south		33	5	14
Longitude by Timekeepers 137 41½				
Middle Mount	S.	75	W.	
Mount Young	S.	87	W.	
Point Lowly, the extreme	N.	43	E.	
High peak on the eastern land	N.	25	E.	

Our prospect of a channel or strait, cutting off some considerable portion of Terra Australis, was lost, for it now appeared that the ship was entered into a gulph; but the width of the opening round Point Lowly left us a consolatory hope that it would terminate in a river of some importance. In steering for the point we came into 4 fathoms, but on hauling to the eastward found 8, although a dry sand bank was seen in that direction. The depth afterwards diminished to 6, on which the course for Point Lowly was resumed; and we passed it at the distance of a mile and a half, in 9 fathoms water. Here the gulph was found to take a river-like form, but the eastern half of it was occupied by a dry, sandy spit and shoal water. We continued to steer upwards, before the wind; but as the width contracted rapidly, and there was much shoal water, it was under very easy sail, and with an anchor ready to be let go. At four o'clock in attempting to steer close over to the western side, we came suddenly into 2½ fathoms; the ship was instantly veered to the eastward, and on the water deepening to 7, we let go the anchor and veered out a whole cable; for the wind blew a fresh gale right up the gulph, and between S. 4. deg. W. and 30 deg. E. there was no shelter from the land. At sunset a second anchor was dropped under foot.

We had reached near five leagues above Point Lowly at the entrance of the narrow part of the gulph; but the shores were low on both sides, and abreast of the ship not so much as four miles asunder. At the back of the eastern shore was the ridge of mountains before mentioned, of which Mr. Westall made the sketch given in the Atlas; and the highest peak toward their northern extremity, afterwards called Mount Brown, bore N. 32 deg. E. On the western side, upwards, there was moderately high, flat-topped land, whose eastern bluff bore N. 36 deg. W., about three leagues, and there the head of the gulph had the appearance of terminating; but as the tide ran one mile an hour past the ship, we still flattered ourselves with the prospect of a longer course, and that it would end in a fresh-water river.

Early on the following morning, Messrs. Brown, Bauer, and Westall, with attendants, set off upon an excursion to the eastern mountains, intending, if possible to ascend to the top of Mount Brown; and I went away in a cutter, accompanied by the surgeon, to explore the head of the gulph, taking with me Arnold's pocket time keeper. After crossing the middle shoal upon which we had 2½ fathoms in the ship, the water deepened to 10, but afterwards diminished to 2, on approaching the mangroves of the western side. Keeping then upwards, I had from 7 to 10 fathoms in the mid-channel; but found shoal water extending a mile, and sometimes more, from the shore, and no possibility of landing until we came near the broad, flat-topped hill. From the eastern bluff of this hill, Mount Brown bore N. 62 deg. 20 min. E., and Mount Arden, a peak nearly at the furthest extremity of the ridge, N. 18 deg. 40 min. E.; and the inlet was seen to run in a serpentine form to the northward, between low banks covered with mangroves. After taking the bearings, we returned to the boat and pursued our course upward along the western shore, having from 4 to 7 fathoms past the bluff; but the inlet was there less than two miles wide, and a league further on it was contracted to one mile; half of which, besides, was occupied by mud flats. These banks were frequented by ducks and other water fowl; and some time being occupied in chasing them, our distance above the ship was not so much as five leagues in a straight line, when the setting sun reminded us of looking out for a place of rest. A landing was effected with some difficulty amongst the mangroves on the eastern shore; and from a small eminence of red earth, I set the ship's mast heads at S. 14 deg. E., and Mount Brown N. 85 deg. E.

Next morning we continued the examination upwards, carrying 4, 3, and 2 fathoms in mid-channel; but at ten o'clock our oars touched the mud on each side, and it was not possible to proceed further. I then landed and took observations in an artificial horizon for the timekeeper which gave 4 m. 34 s. of longitude to the west of the ship, or only two seconds more than was deduced from the bearings. Mount Brown bore S. 72 deg. E., Mount Arden N. 26 deg. E., and my last station on the eminence of red earth S. 6 deg. E. The inlet wholly terminated at one mile and a half to the N. 16 deg. W.

It seemed remarkable, and was very mortifying, to find the water at the head of the gulph as salt nearly as at the ship; nevertheless it was evident that much fresh water was thrown into it in wet seasons, especially from the eastern mountains. The summits of the ridge lie from three to four leagues back from the water side, but the greater part of that space seemed to be low, marshy land. To the northward no hill was visible, and to the westward but one small elevation of flat-topped land; all else in those directions was mangroves and salt swamps, and they seemed to be very extensive.

Two miles below the place where the observations for the time keeper were taken was a small cliff of reddish clay on the western shore; and being near it on our return, when the sun was approaching the meridian, I landed to observe the latitude. It was 32 deg. 27 min. 56 sec. south; so that the termination of the gulph may be called in 32 deg. 24½ min. without making a greater error than half a mile. Mount Brown bore from thence S. 80½ deg. E., and its latitude will therefore be 32 deg. 30¼ min. south; the longitude deduced from bearings and the timekeepers on board is 138 deg. 0¾ min. east.

Our return to the ship was a good deal retarded by going after the black swans and ducks among the flats. The swans were all able to fly, and would not allow themselves to be approached; but some ducks of two or three different species were shot, and also several sea pies or red bills. Another set of bearings was taken on the western shore, and at ten in the evening we reached the ship, where Mr. Brown and his party had not been long arrived. The ascent to Mount Brown had proved to be very difficult, besides having to walk fifteen miles on a winding course, before reaching the foot; by perseverance, however, they gained the top at five on the first evening, but were reduced to passing the night without water; nor was any found until they had descended some distance on the following day. The view from the top of Mount Brown was very extensive, its elevation being not less than three thousand feet; but neither rivers nor lakes could be perceived, nor anything of the sea to the south-eastward. In almost every direction the eye traversed over an uninterruptedly flat, woody country; the sole exceptions being the ridge of mountains extending north and south, and the water of the gulph to the south-westward.

Mr. Brown found the stone of this ridge of craggy mountains to be argillaceous, similar to that of the flat-topped land where I had taken bearings on the west side of the inlet. It is reddish, smooth, close-grained and rather heavy. Bushes and some small trees grow in the hollows of the rising hills; and between their feet and the mangrove swamps near the water, there was some tolerably good, though shallow, soil.

We had seen fires upon the eastern shore opposite to Point Lowly, on first entering the head of the gulph, and wherever I had landed there were traces of natives; Mr. Brown found them even to a considerable height up the side of the mountain; and it should therefore seem that the country here is as well inhabited as most parts of Terra Australis, but we had not the good fortune to meet with any of the people.

The observations taken by Lieutenant Flinders fixed the position of the ship in latitude 32 deg. 44 min. 41 sec. south, and longitude by the timekeepers 137 deg. 49 min. 56 sec. east. Twelve sets of distances of the sun and moon gave 137 deg. 50 min. 9 sec.; but these being all on one side, the timekeepers are preferred. Azimuths observed from the pinnacle, when the ship's head was between S. by E. and S.S.E., gave 0 deg. 42 min. east, or 1 deg. 37 min. east, nearly, for the true variation; and there was no particular attraction upon the theodolite at any of my stations on shore.

We had two flood tides in the day setting past the ship, and they ran at the strongest one mile and a half per hour; the rise appeared to be from six to eight feet, and high water to take place at two hours and a half after the moon had passed the meridian. Except in the time of high water, which is considerably later than at Thorny Passage, the tides at the head have a near affinity to those at the entrance to the gulph; whence the great differences at Port Lincoln, intermediately situate, become so much the more extraordinary.

Nothing of particular interest having presented itself to detain us at the head of the gulph, we got under weigh in the morning of the 13th, having a light breeze from the north-westward. The western shore had been followed in going up, and for that reason I proposed to keep close to the east side in returning; but before eight o'clock the water shoaled suddenly from 4 to 2 fathoms, and the ship hung upon a mud bank covered with grass, two or three miles from the shore. A kedge anchor was carried out astern; and in half an hour we again made sail downward, in sounding from 5 to 10 fathoms, near the end of the shoal.

	Deg.	Min.	Sec.
At noon, latitude observed to the N. and S.	32	57	6
Mount Brown bore	N. 9	30	E.
Point Lowly, south extreme dist. 7 miles	S. 79	0	W.

The depth was then 7 fathoms; but there were banks ahead, extending to a great distance from the eastern shore, and in steering westward to pass round them, we had 3½ fathoms for the least water. It afterwards deepened to 7, and we again steered southward, but were not able to get near the land; on the contrary, the shallow water forced us further off as we proceeded. The wind was at west-south-west in the evening; and this not permitting us to lie along the edge of the bank, we came to an anchor in 7 fathoms, soft bottom, being then about four leagues from the eastern low shore, although there was only 3½ fathoms at less than a mile nearer in.

Mount Brown bore	N. 21 deg. E.
Barn Hill	S. 43 deg. E.
Mount Young	N. 66 deg. W.

In the morning we followed the line of the great eastern shoal, and its direction permitted us to approach nearer to the land, with soundings between 8 and 4 fathoms. A little before noon, after running half an hour in less than 4 fathoms and getting within about six miles of the land, we were obliged to tack and stretch off, the wind having veered to south-west. Our situation twenty minutes afterward was in

	Deg.	Min.	Sec.
Latitude, observed to the north and south	33	23	49
Longitude, by timekeepers	137	47	
Mount Young bore	N. 38	W.	
Middle Mount, west side of the gulph	N. 66	W.	
Barn Hill, on the east side	S. 60	E.	

We beat to windward all the afternoon, and at sunset anchored in 3½ fathoms, near the edge of the great bank and seven or eight miles from the land. The shore was low and sandy, but there was a ridge of hills behind it nearly similar to that on the west side of the gulph. Barn Hill lies at the back of this ridge and about twelve miles from the water; and towards the southern end of the ridge was another hill, also some distance inland, of which I shall have occasion to speak hereafter. A middle mount on the west side of the gulph, higher and further back than the one before set, was in sight from this anchorage; and the bearings taken were these:

Middle back mount	N. 61 deg. W.
Barn Hill on the east side	S. 74 deg. E.
A more southern hill	S. 38 deg. E.

Mount Brown was no longer visible; but it had been seen this afternoon at the distance of fifty-eight miles, and was sufficiently above the horizon to have been distinguished some miles further from a ship's deck in a perfectly clear day.

On the morning of the 15th, the wind had shifted to south-east; and the great bank then trending south-westward, we followed it with variable soundings between 3 and 10 fathoms. At ten o'clock the water had deepened to 15; and being then nearer to the west than to the east side of the gulph, and the wind having come more ahead, we tacked to the east-south-east; but in fifty minutes were obliged to steer westward again, having fallen into 3 fathoms on the edge of the bank. This is the narrowest part of the gulph below Point Lowly, the two shores being scarcely more than twenty miles asunder; and of this space, the great eastern bank, if the part where we last had 3 fathoms be connected with it, occupies about eleven, and the shallow water of the west side one or two miles. The soundings we had in stretching westward across the deep channel were, from the shoal 3, 5, 7, 10, 12, 12, 12, 10, 9, 8, 7, 6, 7, 6, 5 fathoms, at nearly equal distances asunder, and the last at six miles from the western land.

After sounding across the channel, we stood back, lying up south-east, and reached within five miles of the eastern shore, where the anchor was dropped in 4½ fathoms; Barn Hill bearing N. 69 deg. E., and a cliffy projection, named Point Riley after the gentleman of that name in the Admiralty, S. 14 deg. W., two or three leagues. This point was the furthest visible part of the eastern shore; and so low and uniform had the coast been from the head of the gulph, that this was the first mark I had found upon it from the survey. The great eastern bank, which we had already followed about sixty miles, seemed to terminate at Point Riley; and from thence southward the gulph greatly enlarges its breadth. The situation of the point is about 33 deg. 53 min. south and 137 deg. 30 min. E.

We got under weigh at six in the morning, and the wind being from the south-eastward made a good stretch along the coast until noon. A patch of breakers then lay five miles to the south-east; but the land was ten miles distant, and some white, sandy cliffs, four or five leagues from Point Riley, bore S. 52 deg. E. The intermediate coast, as also that which extends several leagues to the north of the point, is low and sandy; but at a few miles back it rises to a level land of moderate elevation, and is not ill clothed with small trees. In the afternoon we had to beat against a southern wind; and the coast in that part being too open for anchorage, this was continued all night and the next morning; but with so little profit, that the same land was still in sight at noon, and our situation found to be as follows:

	Deg.	Min.	Sec.
Latitude, observed to the north and south	34	15	24
Longitude by timekeepers	137	24½	
North extreme near the sandy cliffs, distant 6 miles	N. 19	E.	
Low red cliffs, south end, distant 6 or 7 miles	S. 54	E.	

At six in the evening the reddish cliffs were brought to bear N. 44 deg. E., and a long point, or an island lying off a point, bore S. 43 deg. W. two leagues. Our distance from a cliffy islet, close under the shore, was two or three miles, but the breakers from it were only half a mile off, and the depth was 4 fathoms.

On the 18th, in the morning, we fetched to windward of the island-like point, to which I gave the name of Point Pearce, in compliment to Mr. Pearce, of the Admiralty. Its latitude is 34 deg. 28½ min. south, and longitude 137 deg. 21 min. east. On the south side of this point or island, for I could not fully ascertain its connection, the shore falls back seven or eight miles to the east; and then trends southward. It is low and very sandy; but rises gradually to a level country, of the same description as that near Point Riley. At sunset the land was seen as far as south-west-by-south; and the wind favouring us a little, we made a stretch for it. A fire upon the shore served as a mark to steer by, and upon approaching it at ten o'clock, the anchor was let go in 6 fathoms, upon a bottom of coarse sand and small stones, the weather being fine, and wind moderate off the land.

The howling of dogs was heard during the night; and at daylight the shore was found to be distant two or three miles, and was woody, rising land, but not of much elevation. A remarkable point, which I named Corny Point, bearing S. 73 deg. W. three miles, was the furthest land visible to the westward; its latitude, from meridian observations of Jupiter and the moon, is 34 deg. 52 min. south, and longitude from the timekeepers 137 deg. 6½ min. east. Between this point and Point Pearce, twenty-eight miles to the north-north-east, is a large bay, well sheltered from all southern winds, and none others seem to blow with much strength here. The land trends eastward about seven leagues, from Corny Point to the head of the bay; but what the depth of water may be there, or whether any fresh stream fall into it, I am not able to state; the land, however, was better wooded, and had a more fertile appearance than any before seen in the neighbourhood. I called this Hardwicke Bay, in honour of the noble earl of that title.

Several observations for the variation of the compass had been taken whilst beating in the neighbourhood of Point Pearce. On its north side, eight miles from the shore, an amplitude with the ship's head S.W. by S. gave 4 deg. 38 min. east; at E. by N., when fourteen miles off, another gave 1 deg. 13 min. east; but azimuths three or four miles nearer in, 0 deg. 10 min. west; and at S.E., when six miles off, 0 deg. 35 min. west. On the south side of Point Pearce, the head being S.S.W., and the land distant thirteen miles, an amplitude gave 3 deg. 15 min. east. These different observations, which were all taken with the surveying compass, being corrected upon the principles and by the proportion explained in the Appendix No. II to the second volume, will be respectively, 2 deg. 51 min., 4 deg. 21 min. furthest from the land, 2 deg. 58 min., 1 deg. 41 min. nearest the land, and 2 deg. 1 min. east. The mean is 2 deg. 46 min. east; which may be taken for the true variation at three or four leagues off Point Pearce in 1802; but close in with the shore, I suspect it was less by 1 deg. or perhaps 2 deg.

Having remained at anchor until the sun was high enough to admit of observations for the timekeepers, we got under weigh at half-past seven o'clock; and the coast round Corny Point being found to trend S. 27 deg. W., nearly in the wind's eye, I stretched westward across the gulph, towards Thistle's Island, in order to compare the timekeepers with the longitudes of places before settled. Our latitude at noon, observed on both sides, was 34 deg. 50 min. 10 sec.; Spilsby Island, the south-easternmost of Sir Joseph Banks' Group, was seen bearing N. 56 deg. W., and the eastern bluff of Wedge Island, the central and largest of Gambier's Isles, bore S. 16½ deg. W.. Gambier's Isles, four in number, besides two peaked rocks, had been first seen from the high land behind Memory Cove. They lie nearly in the centre of the entrance to the gulph; and the latitude of Wedge Island is 35 deg. 11 min. south, and longitude 136 deg. 29 min. east. Soon after four in the afternoon, I had the following bearings:

Wedge Island, highest part	S. 21½ deg. E.
Thistle's Island, highest part	S. 29 deg. W.
Cape Catastrophe, former station on the S.E. point	S. 53½ deg. W.
Stamford Hill, former station at the top	N. 86 deg. W.
Sibsey Island, centre	N. 33 deg. W.
Stickney Island	N. 11 deg. W.
Spilsby Island	N. 17½ deg. E.

The longitude deduced from these bearings was 30 min. 22 sec. east, from the head of Port Lincoln, and that resulting from observations for the timekeepers taken in the same place was 30 min. 53 sec., showing a difference of no more than 0 min. 31 sec. to the east, since quitting the port. This quantity in a sea observation is so small and uncertain that I considered the timekeepers to have gone correctly from March 4, when the last observations in Port Lincoln had been made, up to this time; and that the lunar observations taken in the interval might be reduced back to the head of the port by their means, and used to fix its longitude without any further correction.

Besides the bearings above given, there was a rocky islet four miles distant in the S. 78 deg. W.; part of a ledge of low rocks which extended towards the north end of Thistle's Island, and may possibly be connected with the rock set from thence. This ledge is marked dangerous in the particular chart.

Having satisfactorily ascertained the going of the timekeepers, we tacked and stretched back for the coast on the east side of the gulph; but did not get sight of it before dark. At six on the following morning,

Corny Point, dist. 5 or 6 leagues, bore	N. 63½ deg. E.
A cliffy head, distant 10 miles	S. 85 deg. E.
Furthest extreme, at Cliffy Point	S. 21 deg. E.
Wedge Island, eastern bluff	S. 49 deg. W.
Thistle's Island, highest part	West.

An amplitude taken when the ship's head was south-by-east, gave variation 1 deg. 25 min. east, and azimuths at south-south-east, 1 deg. 10 min.; the mean, reduced to the meridian, is 2 deg. 13 min. east, or a few minutes more than had been found on the west side of the gulph, and half a degree less than off Point Pearce.

The tide appeared to set us along the shore to the southward, although, from what was observed at Thistle's Island, it should have been the time of flood. With its assistance, and the wind having become less unfavourable, we were enabled to make a course for the furthest land. This proved to be a cape, composed of three cliffy points, near the northern part of which lay a cluster of black rocks. The southernmost cliff bore at noon E. 4½ deg. S. six or seven miles, and beyond it there was no main coast visible; but three small islands with several rocks and a reef, were seen to lie as far as five miles to the southward, out from the cape.

Although the continuation of the main coast was not to be distinguished beyond the cape, yet there was land in sight at the distance of seven or eight leagues, from about south to S. 18½ deg. W. Whether this land were an island, or a part of the continent, and the wide opening to the eastward a strait, or a new inlet, was uncertain; but in either case, the investigation of the gulph was terminated; and in honour of the respected nobleman who presided at the Board of Admiralty when the voyage was planned and ship put into commission, I named it Spencer's Gulph. The cliffy-pointed cape which forms the east side of the entrance, and lies in 35 deg. 18 min. south and 136 deg. 55 min. east, was named Cape Spencer; and the three isles lying off it, with their rocks, Althorpe Isles.

A line drawn from the nearest part of Cape Catastrophe to Cape Spencer will be forty-eight miles long, and so much is the entrance of the gulph in width. Gambier's Isles lie not far from the middle of the line; and if we measure upward from them, the gulph will be found, without regard to the small windings, to extend one hundred and eight-five miles into the interior of the country. For the general exactness of its form in the chart, I can answer with tolerable confidence; having seen all that is laid down, and, as usual, taken every angle which enters into the construction. Throughout the whole extent of the shores the water line was almost everywhere distinguished; the only exceptions being small portions at the head of Hardwicke and Louth Bays, of a bight near Point Lowly, and of the low land at the back of the great Eastern Shoal.

At noon, when off Cape Spencer, the wind became variable and light, with very hazy, cloudy weather; and the mercury in my marine barometer had fallen two-tenths of an inch At six in the evening a breeze sprung up at west-north-west; and as I expected a gale would come on, and that as usual it would veer to the south-west, we ceased to follow the coast beyond Cape Spencer, and steered for the land seen in the southern quarter. The Althorpe Isles were passed at eight o'clock, at the distance of eight or nine miles; and the wind being fresh at west, we made short trips during the night between the two lands, not knowing what might be in the space to leeward. At daylight the ship was nearly in mid-channel, between the southern land and Cape Spencer, and nothing was seen to the eastward. It then blew a fresh gale at south-west, with much sea running; we stretched south-east under close-reefed top sails, to get under the lee of the southern land; and at eight o'clock, when the largest Althorpe Isle bore N. 32 deg. W., it was distant six or seven miles to the south, and extended from S. 61 deg. W. to 79 deg. E., as far as the eye could reach. It was rather high, and cliffy; but there was nothing by which to judge of its connection with the main.

At ten o'clock we were close under the land; and finding the water tolerably smooth, had shortened sail with the intention of anchoring near a small, sandy beach; but the situation proving to be too much exposed, we steered eastward along the shore under two close-reefed top sails and fore sail, the wind blowing strong in squalls from the south-west. The furthest land seen ahead at noon was a projecting point, lower than the other cliffs; it bore E. 7 deg. S., four leagues, and lies in 35 deg. 33 min. south, and 137 deg. 41 min. east. It was named Point Marsden, in compliment to the second secretary of the Admiralty; and beyond it the coast was found to trend southward into a large bay containing three coves, any one of which promised good shelter from the gale. This was called Nepean Bay, in compliment to the first secretary (now Sir Evan Nepean, Bart.), and we hauled up for it; but the strength of the wind was such that a headland forming the east side of the bay was fetched with difficulty. At six in the evening we came to anchor in 9 fathoms, sandy bottom, within a mile of the shore; the east extreme bearing S. 76 deg. E., and the land near Point Marsden, on the west side of Nepean Bay, N. 61 deg. W., six leagues. A piece of high land, seemingly unconnected, bore from N. 45 deg. to 78 deg. E.; but no land could be distinguished to the northward.

Neither smokes, nor other marks of inhabitants had as yet been perceived upon the southern land, although we had passed along seventy miles of its coast. It was too late to go on shore this evening; but every glass in the ship was pointed there, to see what could be discovered. Several black lumps, like rocks, were pretended to have been seen in motion by some of the young gentlemen, which caused the force of their imaginations to be much admired; next morning, however, on going toward the shore, a number of dark-brown kangaroos were seen feeding upon a grass plat by the side of the wood; and our landing gave them no disturbance. I had with me a double-barrelled gun, fitted with a bayonet, and the gentlemen, my companions, had muskets. It would be difficult to guess how many kangaroos were seen; but I killed ten, and the rest of the party made up the number to thirty-one, taken on board in the course of the day; the least of them weighing sixty-nine and the largest one hundred and twenty-five pounds. These kangaroos had much resemblance to the large species found in the forest lands of New South Wales; except that their colour was darker, and they were not wholly destitute of fat.

After this butchery, for the poor animals suffered themselves to be shot in the eyes with small shot, and in some cases to be knocked on the head with sticks, I scrambled with difficulty through the brush wood, and over fallen trees, to reach the higher land with the surveying instruments; but the thickness and height of the wood prevented anything else from being distinguished. There was little doubt, however, that this extensive piece of land was separated from the continent; for the extraordinary tameness of the kangaroos and the presence of seals upon the shore concurred with the absence of all traces of men to show that it was not inhabited.

The whole ship's company was employed this afternoon in skinning and cleaning the kangaroos; and a delightful regale they afforded, after four months' privation from almost any fresh provisions. Half a hundredweight of heads, forequarters, and tails were stewed down into soup for dinner on this and the succeeding days; and as much steaks given, moreover, to both officers and men as they could consume by day and by night. In gratitude for so seasonable a supply I named this southern land Kangaroo Island.*

Next day was employed in shifting the top masts, on account of some rents found in the heels. The scientific gentlemen landed again to examine the natural productions of the island, and in the evening eleven more kangaroos were brought on board; but most of these were smaller, and seemed to be of a different species to those of the preceding day. Some of the party saw sevral large running birds, which, according to their description, seemed to have been the emu or cassowary.

Not being able to obtain a distinct view from any elevated situation, I took a set of angles from a small projection near the ship, named Kangaroo Head, but nothing could be seen to the north; and the sole bearing of importance, more than had been taken on board, was that of a high hill at the extremity of the apparently unconnected land to the eastward: it bore No. 39 deg. 10 min. E., and was named Mount Lofty. The nearest part of that land was a low point, bearing N. 60 deg. E. nine or ten miles; but the land immediately at the back was high, and its northern and southern extremes were cliffy. I named it Cape Jervis, and it was afterwards sketched by Mr. Westall.

All the cliffs of Kangaroo Island seen to the west of the anchorage had the appearance of being calcareous, and the loose stones scattered over the surface of Kangaroo Head and the vicinity were of that substance; but the basis in this part seemed to be a brown slate, lying in strata nearly horizontal, and laminae of quartz were sometimes seen in the interstices. In some places the slate was split into pieces of a foot long or more, like iron bars, and had a shining, ore-like appearance; and the strata were then further from the horizontal line than I observed them to be elsewhere.

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*Captain Flinders spelt the word as "Kanguroo" in his journal.

A thick wood covered almost all that part of the island visible from the ship; but the trees in a vegetating state were not equal in size to the generality of those lying on the ground, nor to the dead trees standing upright. Those on the ground were so abundant that in ascending the higher land a considerable part of the walk was made upon them. They lay in all directions, and were nearly of the same size and in the same progress towards decay; from whence it would seem that they had not fallen from age, nor yet been thrown down in a gale of wind. Some general conflagration, and there were marks of fire apparently on many of them, is perhaps the sole cause which can be reasonably assigned; but whence came the woods on fire? That there were no inhabitants upon the island, and that the natives of the continent did not visit it was demonstrated, if not by the want of all signs of such visit, yet by the tameness of the kangaroo, an animal which, on the continent, resembles the wild deer in timidity. Perhaps lightning might have been the cause, or possibly the friction of two dead trees in a strong wind; but it would be somewhat extraordinary that the same thing should have happened at Thistle's Island, Boston Island, and at this place, and apparently about the same time. Can this part of Terra Australis have been visted before, unknown to the world? The French navigator, La Perouse, was ordered to explore it, but there seems little probability that he ever passed Torres' Strait.

Some judgment may be formed of the epoch when these conflagrations happened from the magnitude of the growing trees; for they must have sprung up since that period. They were a species of eucalyptus, and being less than the fallen trees, had most probably not arrived at maturity; but the wood is hard and solid, and it may thence be supposed to grow slowly. With these considerations I should be inclined to fix the period at not less than ten nor more than twenty years before our arrival. This brings us back to La Perouse. He was in Botany Bay in the beginning of 1788; and if he did pass through Torres' Strait and come round to this coast as was his intention, it would probably be about the middle or latter end of that year, or between thirteen and fourteen years before the "Investigator." My opinion is not favourable to this conjecture; but I have furnished all the data to enable the reader to form his own judgment upon the cause which might have prostrated the woods of these islands.*

The soil of that part of Kangaroo Island examined by us was judged to be much superior to any before seen, either upon the south coast of the continent or upon the islands near it; with the exception of some portions behind the harbours of King George's Sound. The depth of the soil was not particularly ascertained; but from the thickness of the wood it cannot be very shallow. Some sand is mixed with the vegetable earth, but not in any great proportion; and I thought the soil superior to some of the land cultivated at Port Jackson, and to much of that in our stony counties in England.

Never perhaps had the dominion possessed here by the kangaroo been invaded before this time. The seal shared with it upon the shores, but they seemed to dwell amicably together. It not unfrequently happened that the report of a gun fired at a kangaroo near the beach brought out two or three bellowing seals from under bushes considerably further from the water side. The seal, indeed, seemed to be much the most discerning animal of the two; for its actions bespoke a knowledge of our not being kangaroos, whereas the kangaroo not unfrequently appeared to consider us to be seals.

The latitude of the landing place near Kangaroo Head from an observation in the artificial horizon, was 35 deg. 43 min. 0 sec. south; and the longitude of our anchorage by timekeepers, 137 deg. 58 min. 31 sec. east. This last, being deduced from observations only four days after the proof had of the timekeepers having gone correctly since leaving Port Lincoln, should be as accurate, or very nearly so, as the longitude of that port.

The variation observed from two compasses on board, with the head south-westward, was 6 deg. 31 min. east; but when the ship swung to a tide coming from east-north-east, the change in the bearings of different objects showed the variation to be about 4 deg. less. The true variation I deduce to be 4 deg. 13 min. east; which is an increase upon what was observed on the west side of Cape Spencer, of 2 deg.; although the distance be no more than twenty-four leagues, and the previous increase from Cape Catastrophe had been almost nothing. It seems probable that the existence of magnetic bodies in the land to the north-westward, and perhaps also in Kangaroo Island and Cape Jervis, was the cause of this change in the direction of the needle.

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* See Proceedings of this Society, Vol. X., and footnote on page 53 herein.

From appearances on the shore I judged the rise of tide to be about six feet. The flood came from the east-north-east twice in the day, and by the swinging of the ship ceased at two hours and a half after the moon's passage; but the time of high water was afterwards found to be later by one hour and a half.

March 24, in the morning, we got under weigh from Kangaroo Island, in order to take up the examination of the main coast at Cape Spencer, where it had been quitted in the evening of the 20th, when the late gale commenced. The wind had continued to blow fresh from the southward; but had now moderated, and was at south-west. We steered north-westward from ten o'clock till six in the evening; and then had sight of land extending from N. 62 deg. W. to a low part terminating at N. 17 deg. E. distant three leagues. A hummock upon this low part was named Troubridge Hill, and at first it makes like an island. Nothing was visible to the eastward of the low land; whence I judged there to be another inlet or a strait between it and Cape Jervis. Soon after dusk the wind veered to south-by-east, on which we steered south-westward, and continued the same course until four in the morning; when the largest Althorpe Isle being seen to the north-west, the ship was hove to, with her head eastward; and at daylight, before making sail, the following bearings were taken of the lands to the northward, but no part of Kangaroo Island was visible.

	Deg.
Wedge Island (of Gambier's Isles), highest part	N. 64½ W.
Althorpe Isle, largest, distant 6 miles	N. 83 deg. to 78 W.

Cape Spencer, south point	N. 44 W.
Furthest extreme of the northern land	N. 44 E.

The wind fixed itself at south-east, and it took us two days to work back against it as far as Troubridge Hill. The shore is generally low and sandy; but with the exception of one very low point, it may be approached within two miles. Many tacks were made in these two days, from the northern land across to Kangaroo Island, and gave opportunities of sounding the intermediate strait. From 45 fathoms, in the middle of the western entrance, the depth diminishes quickly to 25, then more slowly to 20; after which it is irregular between 12 and 20 fathoms, as far as the mouth of the second inlet. Of the two sides, that of Kangaroo Island is much the deepest; but there is no danger in any part to prevent a ship passing through the strait with perfect confidence; and the average width is twenty-three miles. It was named Investigator's Strait, after the ship. The bottom is mostly broken shells, mixed with sand, gravel, or coral, and appeared to hold well.

From two amplitudes taken to the north-north-west of Point Marsden, and near the middle of the strait, the variation was 1 deg. 49 min. east; the ship's head being south-south-east in one case, and north-east-by-north in the other. The true variation deduced from these is 3 deg. 20 min. east, which is 1 deg. 7 min. greater than at Cape Spencer, and 0 deg. 53 min. less than at the anchorage near Kangaroo Head.

At noon of the 27th the eastern wind died away and we dropped a kedge anchor in 15 fathoms, about two miles from Point Marsden, where the following observations and bearings were taken.

		Deg.	Min.	Sec.
Latitude, observed to the north ..		35	31	38
Longitude, by timekeepers		137	42	
Kangaroo Island, furthest western extreme	S.	82	W.	
Kangaroo Island, Point Marsden, west side	S.	26	W.	
Kangaroo Island, innermost head up Nepean Bay	S.	27	E.	

Kangaroo Island, furthest eastern extreme	S.	57½	E.
Cape Jervis, south extreme	S.	73	E.

No set of tide was observable until three o'clock, when it made gently to the north-east, towards the new inlet; and a breeze springing up at south-east soon afterward, we pursued the same course, and were well within the entrance at eight o'clock. Fires were seen ahead; but the soundings being regular and increasing, we kept on until midnight, when the land was seen also, and we stood back for two hours. At daylight I recognised Mount Lofty, upon the highest part of the ridge of mountains which, from Cape Jervis, extends northward behind the eastern shore of the inlet. The nearest part of the coast was distant three leagues, mostly low, and composed of sand and rock, with a few small trees scattered over it; but a few miles inland, where the back mountains rise, the country was well clothed with forest timber, and had a fertile appearance. The fires bespoke this to be a part of the continent.

Light airs and calms prevailed during the morning, and the ship had very little way until noon, when a breeze sprang up at south-west. Our situation was then in

		Deg.	Min.	Sec.
Latitude, observed to the north and south		35	4	13
Longitude by timekeepers		138	23	
Mount Lofty bore	N.	71	E.	
Southern extreme toward Cape Jervis	S.	17	W.	
Northern extreme, trees above the water	N.	32	E.	

The situation of Mount Lofty was found from hence and from some other cross bearings to be 34 deg. 59 min. south and 138 deg. 42 in. east. No land was visible so far to the north as where the trees appeared above the horizon, which showed the coast to be very low, and our soundings were fast decreasing. From noon to six o'clock we ran thirty miles to the northward skirting a sandy shore at the distance of five, and thence to eight miles; the depth was then 5 fathoms, and we dropped the anchor upon a bottom of sand, mixed with pieces of dead coral.

In the morning land was seen to the westward, and also a hummocky mountain, capped with clouds, apparently near the head of the inlet. Azimuths with the surveying compass, taken when the ship's head was south-eastward, gave 2 deg. 27 min. east variation; but an amplitude taken at the same anchorage on the preceding evening, when the head was south-by-west, showed 5 deg. 22 min. east. These corrected to the meridian will be severally 4 deg. 43 min. and 4 deg. 44 min. east; or half a degree more than was observed near Kangaroo Head. The observations at this anchorage and the bearings taken were as follow:

Latitude observed from the moon—34 deg. 36 min. S.
Longitude by time keepers—138 deg. 18 min. E.
Mount Lofty—S. 41½ E.
Nearest shore, distant 7 miles—N.E. to N.
Hummock mount, highest top—N 12½ W.
Western land, furthest extremes—N 51 deg. to S. 65 W.

There being almost no wind in the morning, we remained at anchor until nine o'clock, to set up afresh the rigging of the new top masts; and I took a boat to sound upon a rippling near the ship, but found the same depth of 5 fathoms. Very little progress was made until noon; at which time shoal water obliged us to steer westward. At three the soundings had increased from 3½ to 10 fathoms, which was the deepest water to be found; for it became shallower on approaching the western shore. After steering various northwardly courses, we anchored at sunset in 5 fathoms, sand, shells, and broken coral; the shores then appeared to close round, at the distance of seven or eight miles; and the absence of tide gave no prospect of finding any river at the head of the inlet.

According to Lieutenant Flinders' observations, the situation of the anchorage was in:

Latitude—34 deg. 16 min. 36 sec.
Longitude by timekeepers—138 deg. 6 min.
Mount Lofty, distant 17 leagues, bore—S. 35 deg. E.
Hummock Mount, highest part—N. 5 deg. E.
A low sandy point, distant 3 or 4 miles—N. 69 deg. E.
A low point covered with mangroves—N. 53 deg. W.

The variation from an amplitude, observed when the ship's head was south-eastward, was 2 deg. 50 min. east; but the compass being upon a stand out of its usual place, I cannot deduce the true variation, but took it to be 4 deg. 40 min. east, nearly as found at the preceding anchorage.

Early in the morning I went in a boat, accompanied by the naturalist, to examine more closely the head of the gulph. We carried from 4 to 3 fathoms water four miles above the ship, when it shoaled to fifteen and eight feet, which brought us to mud flats, nearly dry; but by means of a small channel amongst them we got within half a mile of the shore, and walked to it upon a bank of mud and sand.

It was then ten o'clock, and the tide was out; so that I judged the time of high water to be about seven hours after the moon's passage, or three hours later than at Kangaroo Island; and the ordinary rise appeared to be six or eight feet. An observation of the sun's meridian altitude from the artificial horizon, showed the landing place to be in latitude 34 deg. 8 min. 52 sec., and the uppermost water might be 30 sec. less; whence the extent of this inlet, from Cape Jervis on the east side of the entrance, is 1 deg. 30 min. of latitude.

Microscopic shells of various kinds, not larger than grains of wheat, were heaped up in ridges at high-water mark; further back the shore was sandy, but soon rose, in an undulating manner, to hills covered with grass; and the several clumps of trees scattered over them gave the land a pleasing appearance from the water side. We set off in the afternoon for the Hummock Mount, which stands upon a northern prolongation of the hills on the west side of the inlet, and about eight miles from the water; but finding it could not be reached in time to admit of returning on board the same evening, I ascended a nearer part of the range to inspect the head of the inlet. It was almost wholly occupied by flats, which seemed to be sandy in the eastern part and muddy to the westward. These flats abounded with rays; and had we been provided with a harpoon, a boat-load might have been caught. One black swan and several shags and gulls were seen.

I found the grass upon these pleasant-looking hills to be thinly set, the trees small, and the land poor in vegetable soil. The mountainous ridge on the east side of the inlet passes within a few miles of Hummock Mount, and appeared to be more sandy; but the wood upon it was abundant, and of a larger growth. Between the two ranges is a broad valley, swampy at the bottom; and into it the water runs down from both sides in rainy weather, and is discharged into the gulph, which may be considered as the lower and wider part of the valley.

The eastern ridge is the same which rises at Cape Jervis; from whence it extends northward towards Barn Hill and the ridge of mountains on the east side of Spencer's Gulph. If it join that ridge, as I strongly suspect, its length, taking it only from Cape Jervis to Mount Arden, will be more than seventy leagues in a straight line. There are some considerable elevations on the southern part; Mount Lofty is one of them, and its height appeared nearly equal to that of Mount Brown to the north, or about three thousand feet. Another lies six or seven miles to the north-by-east of the Hummock Mount, near the head of this inlet; and seems to have been the hill set from Spencer's Gulph, at the anchorage of March 14, in the evening, when it was distant ten or eleven leagues and appeared above the lower range in front of Barn Hill.

From my station on the western hills of the new inlet, across to Spencer's Gulph, the distance was not more than thirty miles; but as I did not ascend the highest part of the range, the water to the westward could not be seen. Had the Hummock Mount been within my reach, its elevation of near fifteen hundred feet would probably have afforded an extensive view, both across the peninsula and of the country to the northward.

In honour of the noble admiral who presided at the Board of Admiralty when I sailed from England, and had continued to the voyage that countenance and protection of which Earl Spencer had set the example, I named this new inlet, the Gulph of St. Vincent. To the peninsula which separates it from Spencer's Gulph, I have affixed the name Yorke's Peninsula, in honour of the Right Honourable Charles Philip Yorke, who followed the steps of his above-mentioned predecessors at the Admiralty.

On the 31st, at daylight, we got under weigh to proceed down the gulph, and having followed the eastern shore in going up, I wished to trace the coast of the peninsula in returning; but the wind being nearly at south, it could only be done partially. At two in the afternoon we tacked in 3 fathoms from the eastern shoals, and at sunset, in the same depth one mile from the western side; our distance from the head of the gulph being then about ten leagues, and the furthest land of the peninsula bearing S. 3 deg. E. The western hills come down nearly to the water side here, and have the same pleasant appearance as at the head of the gulph, being grassy, with clumps of wood scattered over them; the coast line is somewhat cliffy, and not so low as the eastern shore.

During the night the wind veered round to east, and at three in the morning to north-east; and a fire being seen on the eastern shore, the fore top sail was laid to the mast. At daybreak we made sail west for the land of the peninsula; and at half-past nine it was less than five miles distant, being very low and sandy. The northern extreme then in sight appeared to be the same land set in the evening at S. 3 deg. E.; the other extreme was not far from Troubridge Hill, on the west side of the entrance to the gulph; and near it was an extensive bank, part of it dry, which I called Troubridge Shoal. The bearings taken at this time were:

Northern extreme of the western shore—N. 2 deg. E.
Southern extreme, distant 7 miles—S. 42 deg. W.
Troubridge Shoal, dry part—S. 13 deg. W. to 9 deg. E.
Cape Jervis, S. extreme of high land, S. 18 deg. E.
Mount Lofty—N. 85 deg. E.

We now hauled the wind to the south-east, and weathered the dry part of Troubridge Shoal; but passed amongst several patches of discoloured water in soundings from 4 to 3½ fathoms. At noon, when our latitude observed on both sides was 35 deg. 9 min. 38 sec. and longitude by time keepers 138 deg. 4½ min., the shoal was distant three leagues to the west-north-west; Cape Jervis bore S. 12 deg., and Mount Lofty N. 72 deg. E.

Our examination of the gulph of St. Vincent was now finished; and the country round it had appeared to be generally superior to that on the borders of Spencer's Gulph. Yorke's Peninsula between them, is singular in its form, bearing some resemblance to a very ill-shaped leg and foot. The length of the southern part, from Cape Spencer to the sandy point near Troubridge Shoal, is about forty-five miles; and from thence northward, to where the peninsula joins the main land, about sixty miles. Its least breadth is from the head of Hardwicke Bay to the Investigator's Strait, where it appears to be not more than three leagues.

Having now made myself acquainted with the shores of the continent up to Cape Jervis, it remained to pursue the discovery further eastward; but I wished to ascertain previously whether any error had crept into the time keeper's rates since leaving Kangaroo Island, and also to procure there a few more fresh meals for my ship's company. Our course was in consequence directed for the island, which was visible from aloft; but the winds being very feeble, we did not pass Kangaroo Head until eleven at night. I purposed to have run up into the eastern cove of Nepean Bay; but finding the water to shoal from 12 to 7 fathoms, did not think it safe to go further in the dark; and therefore dropped the anchor about three-quarters of a mile from the shore, and two miles to the south-west-by-west of our former anchorage.

Early on the following morning a party was sent to shoot kangaroos, another to cut wood, and the naturalists went to pursue their researches. The observations taken by Lieutenant Flinders, compared with those of March 24th, showed the time keepers to have erred 2 min. 10 sec. of longitude to the west, in the nine days we had been absent; and they had not, consequently, lost quite so much upon a medium as the Port Lincoln rates supposed. This small error, which principally affected the Gulph of St. Vincent, has been corrected in the longitudes there specified and in the chart, by an equal proportion.

The kangaroos were found to be less numerous than at the first anchoring place, and they had become shy; so that very few were killed. Those few being brought off, with a boat-load of wood, we got under weigh at daylight next morning, to prosecute the examination of the coast beyond Cape Jervis; but the time keepers had stopped from having been neglected to be wound up on the preceding day. We therefore came to an anchor again; and as some time would be required to fix new rates, the ship was moored so soon as the flood tide made. I landed immediately to commence the necessary observations, and a party was established on shore, abreast of the ship, to cut more wood for the holds. Lieutenant Fowler was sent in the launch to the eastward with a shooting party and such of the scientific gentlemen as chose to accompany him, and there being skins wanted for the service of the rigging, he was directed to kill some seals.

On the 4th I was accompanied by the naturalist in a boat expedition to the head of the large eastern cove of Nepean Bay; intending if possible to ascend a sandy eminence behind it, from which alone there was any hope of obtaining a view into the interior of the island, all the other hills being thickly covered with wood. On approaching the south-west corner of the cove, a small opening was found leading into a considerable piece of water; and by one of its branches we reached within little more than a mile of the desired sandy eminence. After I had observed the latitude—35 deg. 50 min. 2 sec. —from an artificial horizon, we got through the wood without much difficulty; and at one o'clock reached the top of the eminence, to which was given the name of Prospect Hill. Instead of a view into the interior of the island, I was surprised to find the sea at not more than one and a half or two miles to the southward. Two points of the coast towards the east end of the island bore S. 77 deg. E., and the furthest part on the other side, a low point with breakers round it, bore S. 33 deg. W., at the supposed distance of four or five leagues. Between these extremes a large bight in the south coast was formed, but it is entirely exposed to southern winds; and the shores are mostly cliffy. Mount Lofty on the east side of the Gulph of St. Vincent was visible from Prospect Hill at the distance of sixty-nine miles; and bore N. 40 deg. 40 min. E.

The entrance of the piece of water at the head of Nepean Bay, is less than half a mile in width, and mostly shallow; but there is a channel sufficiently deep for all boats near the western shore. After turning two low islets near the east point, the water opens out, becomes deeper, and divides into two branches, each of two or three miles long. Boats can go to the head of the southern branch only at high water; the east branch appeared to be accessible at all times; but as a lead and line were neglected to be put into the boat, I had no opportunity of sounding. There are four small islands in the eastern branch; one of them is moderately high and woody, the others are grassy and lower; and upon two of these we found many young pelicans unable to fly. Flocks of the old birds were sitting upon the beaches of the lagoon, and it appeared that the islands were their breeding places; not only so, but from the number of skeletons and bones there scattered, it should seem that they had for ages been selected for the closing scene of their existence. Certainly none more likely to be free from disturbance of every kind could have been chosen than these islets in a hidden lagoon of an uninhabited island, situate upon an unknown coast near the antipodes of Europe; nor can anything be more consonant to the feelings, if pelicans have any, than quietly to resign their breath whilst surrounded by their progeny, and in the same spot where they first drew it. Alas, for the pelicans! Their golden age is past; but it has much succeeded in duration that of man.

I named this piece of water Pelican Lagoon. It is also frequented by flocks of the pied shag, and by some ducks and gulls; and the shoals supplied us with a few oysters. The surrounding country is almost everywhere thickly covered with brushwood; and the soil appeared to be generally of good quality, though not deep. Prospect Hill and the parts around it are more sandy; and there seemed to be swamps at the head of both branches of the lagoon. The isthmus which separates the southern branch from the sea is low; but rises gradually up the cliffs of the coast.

Not being able to return on board the same night, we slept near the entrance of the lagoon. It was high-water by the shore on the morning of the 5th at six o'clock; but on comparing this with the swinging of the ship it appeared that the tide had then been running more than an hour from the westward. The rise in the lagoon seemed to be from four to eight feet.

A few kangaroos had been obtained during my absence, as also some seal skins; but one of the sailors having attacked a large seal incautiously, received a very severe bite in the leg, and was laid up. After all the researches now made in the island it appeared that the kanguroos were much more numerous at our first landing place, near Kangaroo Head, than elsewhere in the neighbourhood. That part of the island was clearer of wood than most others; and there were some small grass plats which seemed to be particularly attractive, and were kept very bare. Not less than thirty emus or cassowaries were seen at different times; but it so happened that they were fired at only once, and that ineffectually. They were most commonly found near the longest of the small beaches to the eastward of Kangaroo Head, at the place represented in the annexed plate, where some little drainings of water oozed from the rocks. It is possible that with much time and labour employed in digging, water might be procured there to supply a ship; and I am sorry to say that it was the sole place found by us where the hope of procuring fresh water could be entertained.

Having received on board a good stock of wood, the launch was hoisted in, and everything prepared for going to sea. Next morning, so soon as the sun was sufficiently elevated to be observed in the artificial horizon, I landed to take the last set of observations for the time keepers; after which the anchor was weighed, and we steered out of Nepean Bay with a light breeze from the south-west. Towards noon it fell calm, and finding by the land that the ship was set westward, an anchor was dropped nearly in our first place off Kangaroo Head, and Mr. Westall took the sketch given in the Atlas.

The rates of the time keepers were obtained, for the sake of expedition, from single altitudes of the sun's upper and lower limbs, taken from a quicksilver horizon with a sextant fixed on a stand; the time being noted from Arnold's watch, compared with Earnshaw's time keepers before going on shore and immediately after returning. From the altitudes of the 3rd, 4th, and 6th, in the morning, the rates of the two time keepers and their errors from mean Greenwich time, reduced to noon there on the last day, were as under:

Earnshaw's No. 543, fast 0 h. 0 min. 18 sec., 03 and losing 8 sec., 46 per day.

No. 520, slow 0 h. 45 min. 29 sec., 56, and losing 18,07 per day.

In deducing these errors, the longitude given by the time keepers on our first arrival from Spencer's Gulph, which I consider to be equally good with that of Port Lincoln, was used, with a correction of 1 min. 20 sec. for the change of place. The medium of the Port Lincoln rates was something greater than that now found; which corresponded with the time keepers having given the longitude of Kangaroo Head less on the second than on the first arrival. This was some proof that the letting down had not affected the rates, and tended to give me confidence in their accuracy.

The variation observed on shore with the theodolite was 5 deg. 48 min. east.

Do. with azimuth compass, No. 1, 2 deg. 58 min. east.

For this difference between the instruments, I find it difficult to account satisfactorily; but it is the same way, and nearly similar in quantity to what was observed in Lucky Bay. The true variation on board the ship, deduced from azimuths taken at anchor two miles to the north-east, and using the compasses Nos. 1 and 2, was as before mentioned, 4 deg. 13 min., nearly the mean of the above; but the bearings taken with the theodolite at Kangaroo Head and Prospect Hill showed only 2½ deg. east, as compared with the bearings on board the ship. There can be little doubt of the existence of magnetic substances in the lands about here, more particularly, as I think, in Yorke's Peninsula; and there will presently be occasion to notice more instances of their effect.

The approach of the winter season, and an apprehension that the discovery of the remaining unknown part of the South Coast might not be completed before a want of provisions would make it necessary to run for Port Jackson, prevented me from stopping a day longer at Kangaroo Island than was necessary to obtaining rates for the time keepers; and consequently, from examining the south and west parts of that island. The direction of the main coast and the inlets it might form were the most important points to be now ascertained; and the details of particular parts, which it would interfere too much with those objects to examine, were best referred to the second visit, directed by my instructions to be made to this coast. When, therefore, the rising of a breeze made it advisable to get under weigh from Kangaroo Head, which was not until two in the afternoon, we proceeded for the eastern outlet of the Investigator's Strait; in order to prosecute the discovery beyond Cape Jervis.

The wind was at south-east; and the tide being against us, but little progress was made until the evening, when it became favourable. Our soundings were irregular, and some rocky islets being seen without side of the opening, I stood in at nine o'clock, to look for anchorage at the east end of Kangaroo Island; and finding no shelter there, we ran a little to leeward into a small bay which I had observed before dark, and anchored at half-past ten, in 4½ fathoms, on a bottom of hard sand. At daylight, the following bearings were taken.

East point of the little bay, distant 1½ miles—East.
West point, distant three miles—N. 38 deg. W.
Cape Jervis, inner lower point—N. 3 deg. W.
Eastern extreme of the coast—N. 65 deg. E.

The bay is perfectly sheltered from all southern winds, and as there were several spots clear of wood near the beach, it is probable that the kanguroos, and perhaps cassowaries, might be numerous. We did not stop to land, but got under weigh so soon as the bearings were taken, to beat out of the strait against the south-east wind; so little was gained, however, after working all the day, that at eight in the evening the ship was still off the east end of Kangaroo Island.

This part of the Investigator's Strait is not more, in the narrowest part, than seven miles across. It forms a private entrance, as it were, to the two gulphs; and I named it Backstairs Passage. The small bay where we had anchored is called the Ante-chamber; and the cape which forms the eastern head of the bay and of Kangaroo Island, and lies in 35 deg. 48 min. South and 138 deg. 13 min. east, received the appellation of Cape Willoughby. Without side of the passage, and almost equidistant from both shores, there are three small, rocky islets near together, called the Pages, whose situation is in latitude 35 deg. 46½ min. south, and longitude 138 deg. 21 min. east; these are the sole dangers in Backstairs Passage, and two of them are conspicuous. Our soundings in beating through were from 8 to 23 fathoms, and in a strong rippling of tide like breakers, there was from 10 to 12 upon a bottom of stones and shells.

At eight in the evening we tacked from Cape Willoughby; and having passed to windward of the Pages, stretched on east and north-eastward until four in the morning. Land was then seen under the lee, and a tack made, off shore, till daylight, when we stood in with the wind at east-south-east. At nine, the land was distant five miles, and of a very different aspect to that of Cape Jervis. As far as six leagues from the cliffy southern extremity of the cape, the land is high, rocky, and much cut by gullies or ravines; a short, scrubby brush wood covers the seaward side, and the stone appeared to be slaty, like the opposite cliffs of Kangaroo Island. But here the hills fall back from the sea, and the shore becomes very low with some hummocks of sand upon it; and the same description of coast prevailed as far as could be seen to the eastward.

Our situation at nine o'clock, when we tacked to the south, was as follows:

Longitude by timekeepers—138 deg. 47½ min.
Cape Jervis, two southern parts, bore—S. 84 deg. W.
A round hummock—N. 85 deg. W.
A rocky islet, under the land—N. 62 deg. W.
Furthest visible part of the sandy coast—S. 87 deg. E.

Before two in the afternoon we stretched eastward again; and at four a white rock was reported from aloft to be seen ahead. On approaching nearer it proved to be a ship standing towards us, and we cleared for action in case of being attacked. The stranger was a heavy-looking ship, without any top-gallant masts up; and our colours being hoisted, she showed a French ensign, and afterwards an English jack forward, as we did a white flag. At half-past five, the land being then five miles distant to the north-eastward, I hove to, and learned, as the stranger passed to leeward with a free wind, that it was the French national ship Le Geographe, under the command of Captain Nicolas Baudin. We veered round as Le Geographe was passing, so as to keep our broadside to her, lest the flag of truce should be a deception; and having come to the wind on the other tack, a boat was hoisted out, and I went on board the French ship, which had also hove to.

As I did not understand French, Mr. Brown, the naturalist, went with me in the boat. We were received by an officer who pointed out the commander and by him were conducted into the cabin. I requested Captain Baudin showed me his passport from the Admiralty; and when it was found and I had perused it, offered mine from the French Marine Minister, but he put it back without inspection. He then informed me that he had spent some time in examining the south and east parts of Van Diemen's Land, where his geographical engineer, with the largest boat and a boat's crew, had been left and probably lost. In Bass' Strait Captain Baudin had encountered a heavy gale, the same we had experienced in a less degree on March 21 in the Investigator's Strait. He was then separated from his consort, Le Naturaliste; but having since had fair winds and fine weather, he had explored the south coast from Western Port to the place of our meeting, without finding any river, inlet, or other shelter which afforded anchorage. I inquired concerning a large island, said to lie in the western entrance of Bass' Strait, but he had not seen it, and seemed to doubt much of its existence.

Captain Baudin was communicative of his discoveries about Van Diemen's Land; as also of his criticisms upon an English chart of Bass' Strait, published in 1800. He found great fault with the north side of the strait, but commended the form given to the south side and to the islands near it. On my pointing out a note upon the chart explaining that the north side of the strait was seen only in an open boat by Mr. Bass, who had no good means of fixing either latitude or longitude, he appeared surprised, not having before paid attention to it. I told him that some other and more particular charts of the Strait and its neighbourhood had been since published; and that if he would keep company until next morning, I would bring him a copy with a small memoir belonging to them. This was agreed to, and I returned with Mr. Brown to the Investigator.

It somewhat surprised me that Captain Baudin made no enquiries concerning my business upon this unknown coast, but as he seemed more desirous of communicating information, I was happy to receive it; next morning, however, he had become inquisitive, some of his officers having learned from my boat's crew that our object was also discovery. I then told him, generally, what our operations had been, particularly in the two gulphs, and the latitude to which I had ascended in the largest; explained the situation of Port Lincoln, where fresh water might be procured; showed him Cape Jervis, which was still in sight; and as a proof of the refreshments to be obtained at the large island opposite to it, pointed out the kangaroo-skin caps worn by my boat's crew; and told him the name I had affixed to the island in consequence. At parting, the captain requested me to take care of his boat and people in case of meeting with them; and to say to Le Naturaliste that he should go to Port Jackson so soon as the bad weather set in. On my asking the name of the captain of Le Naturaliste, he bethought himself to ask mine, and finding it to be the same as the author of the chart which he had been criticising, expressed not a little surprise, but had the politeness to congratulate himself on meeting me.

The situation of the Investigator when I hove to for the purpose of speaking Captain Baudin was 35 deg. 40 min. south, and 138 deg. 58 min. east. No person was present at our conversations except Mr. Brown, and they were mostly carried on in English, which the captain spoke so as to be understood. He gave me, besides what is related above, some information of his losses in men, separations from his consort, and of the improper season at which he was directed to explore this coast; as also a memorandum of some rocks he had met with, lying two leagues from the shore, in latitude 37 deg. 1 min., and he spoke of them as being very dangerous.

I have been the more particular in detailing all that passed at this interview, from a circumstance which it seems proper to explain and discuss in this place.

At the above situation of 35 deg. 40 min. south and 138 deg. 58 min. east, the discoveries made by Captain Baudin upon the south coast have their termination to the west, as mine in the *Investigator* have to the eastward.

Yet Mons. Peron, naturalist in the French expedition, has laid a claim for his nation to the discovery of all the parts between Western Port, in Bass' Strait, and Nuyts' Archipelago; and this part of New South Wales is called Terre Napoleon. My Kangaroo Island, a name which they openly adopted in the expedition, has been converted at Paris into L'Isle Decres; Spencer's Gulph is named Golfe Bonaparte; the Gulph of St. Vincent, Golfe Josephine; and so on along the whole coast to Cape Nuyts, not even the smallest island being left without some similar stamp of French discovery. It is said by M. Peron, and upon my authority too, that the Investigator had not been able to penetrate behind the Isles of St. Peter and St. Francis; and though he doth not say directly that no part of the before unknown coast was discovered by me, yet the whole tenor of his Chap. XV. induces the reader to believe that I had done nothing which could interfere with the prior claim of the French.

Yet M. Peron was present afterwards at Port Jackson, when I showed one of my charts of this coast to Captain Baudin, and pointed out the limits of his discovery; and so far from any prior title being set up at that time to Kangaroo Island and the parts westward, the officers of the Geographe always spoke of them as belonging to the Investigator. The first lieutenant, Mons. Freycinet, even made use of the following odd expression —addressing himself to me in the house of Governor King and in the presence of one of his compaions, I think Mons. Bonnefoy: "Captain, if we had not been kept so long picking up shells and catching butterflies at Van Diemen's Land, you would not have discovered the south coast before us."

The English officers and respectable inhabitants then at Port Jackson can say if the prior discovery of these parts were not generally acknowledged; nay, I appeal to the French officers themselves, generally and individually, if such were not the case. How then came M. Peron to advance what was so contrary to truth? Was he a man destitute of all principle? My answer is that I believe his candour to have been equal to his acknowledged abilities, and that what he wrote was from over-ruling authority, and smote him to the heart: he did not live to finish the second volume.

The motive for this aggression I do not pretend to explain. It may have originated in the desire to rival the British nation in the honour of completing the discovery of the globe; or be intended as the forerunner of a claim to the possession of the countries so said to have been first discovered by French navigators. Whatever may have been the object in view, the question, so far as I am concerned, must be left to the judgment of the world; and if succeeding French writers can see and admit the claims of other navigators as clearly and readily as a late most able man of that nation (M. De Fleurieu) has pointed out their own in some other instances, I shall not fear to leave it even to their decision.

I returned with Mr. Brown on board the Investigator at half-past eight in the morning, and we then separated from Le Geographe; Captain Baudin's course being directed to the north-west and ours to the southward. We had lost ground during the night, and the wind was very feeble at east, so that the French ship was in sight at noon, and our situation was as follows:

Latitude observed—35 deg. 44 min.

Longitude by timekeepers—138 deg. 53 min.

Cape Jervis bore—N. 82½ deg. W.

Hummock at the east end of the high land—N. 4½ deg. E.

Nearest sandy hillock, distant 3 or 4 leagues—N. 65 deg. E.

At the place where we tacked from the shore on the morning of the 8th the high land of Cape Jervis had retreated from the water side, the coast was become low and sandy, and its trending was north-east, but after running four or five leagues in that direction it curved round to the south-eastward, and thus formed a large bight or bay. The head of this bay was probably seen by Captain Baudin in the afternoon; and in consequence of our meeting here, I distinguish it by the name of Encounter Bay. The succeeding part of the coast having been first discovered by the French navigator, I shall make use of the names in describing it which he or his countrymen have thought proper to apply; that is, so far as the volume published enables me to make them out; but this volume being unaccompanied with charts and containing few latitudes and longitudes by which the capes and bays can be identified, I must be excused should any errors be committed in the nomenclature.

There was no wind from noon to two o'clock, and it appeared by the lead that the ship was drifted to the west-north-west, probably by a flood tide. On a breeze springing up from the southward, we stretched in for the shore, and at six in the evening it was four miles distant, being sandy and generally very low; but there were several hillocks upon it high enough to be seen four or five leagues from a ship's deck, and one of them, more bluff than the rest, and nearly destitute of vegetation, bore N. 17 deg. E. Next day at noon our situation was within three miles of the land, but very little advanced beyond that of the preceding day, our latitude being 35 deg. 49 1-3 min., and the bluff hummock in sight bearing N. 22 deg. W.

A tide or current setting along the shore appeared to retard us considerably, for at sunset we were not so much as two miles from the noon's place; the hummock then bore N. 25 deg. W., and the furthest part of the coast south-east-by-east from the mast head.

An amplitude taken in the morning, with the ship's head west-by-south, gave 5 deg. 11 min. east variation, and in the afternoon, when the land was only three miles distant and the head south-east, azimuths with the same compass gave 0 deg. 50 min. west. These, corrected to the meridian in the mode I have adopted, will be severally 1 deg. 57 min. and 1 deg. 30 min. east, and the mean 1 deg. 44 min. The variation had therefore decreased considerably since leaving Kangaroo Island, contrary to the natural order; which proves that the quick increase on passing Yorke's Peninsula was owing to some peculiar attraction, either in that or the neighbouring lands. Whilst beating through the Backstairs Passage I had observed an amplitude when the ship's head was south-south-west, which gave the extraordinary variation of 2 deg. 41 min. east, or reduced to the meridian, 1 deg. 27 min. east, although we were then not so much as four miles from the anchorage where it had been found 4 deg. 13 min. east. Another amplitude was observed at eight leagues to the east of Cape Willoughby, when the head was north-east-half-east, and gave 2 deg. 5 min. east variation, or reduced, 4 deg. 36 min. This last is correspondent with what was observed near Kangaroo Head and in the Gulph of St. Vincent, but the variation of 1 deg. 27 min. in the passage is totally irregular, and must I think be ascribed to an attraction either in Cape Jervis to the north-east or in the east end of Kangaroo Island to the south-east or to both. When the great variation of 4 deg. 36 min. was obtained, both these lands were to the west; and when afterwards the 1 deg. 57 min. and 1 deg. 30 min. were observed, the nearest land was again to the eastward of the ship, and nearest in the last case.

The winds continued to be light and unfavourable; but by taking advantage of the changes in direction, and keeping further from the land, out of the tide or current, we had gained eight leagues by noon of the 11th. About twenty miles of coast beyond what had been set as the furthest extreme on the preceding day was then in sight, and our situation and bearings were as follow:

Latitude by corrected log—36 deg. 11 min.
Longitude by timekeepers—139 deg. 29½ min.
Northern extreme, from the mast head—N. 10 deg. E.
Nearest part, distant 7 or 8 miles—N. 59 deg. E.
A broad patch of white sand—N. 78 deg. E.
Southern extreme, from the mast head—S. 66 deg. E.

At one o'clock we bore away along the coast, with a light breeze from the north-eastward; and having run five leagues, tacked to seaward soon after dark. Next morning we again followed the coast at the distance of from five to three miles, and at noon a somewhat projecting part, which appears to be the Cape Bernouilli of the French navigators, was three or four miles distant to the east Its latitude is 36 deg. 33 min., and longitude 139 deg. 51 min., and about six miles to the south-south-east there are two low black rocks lying close under the shore.

From Encounter Bay to this slight projection, the coast is little else than a bank of sand, with a few hummocks on the top, partially covered with small vegetation; nor could anything in the interior country be distinguished above the bank. The shore runs waving between east-south-east and south-south-east; but to form what is called Cape Bernouilli, it trends south, and then curves back south-eastward into a bight. The land then becomes better clothed with bushes and small trees; and it also differs from the more northern part in that some little risings of back land were visible.

Our soundings were more shallow along this part of the coast than before. The depth in passing Cape Bernouilli was from 8 to 12 fathoms; and on tacking out of the southern bight at half-past five in the evening it was no more than six, at three miles from the shore. We then saw land extending as far out as S. 29 deg. W., which was the south head of the bight, and appears to be the Cape Jaffa of the French; but I do not find that they have given any name to the bight or bay, although much more deserving than some other sinuosities in the coast on which that honour is conferred.

This evening the variation from azimuths was 1 deg. 25 min. east, taken when the ship's head was S.S.E.½E., which being corrected upon the same principle as before is 3 deg. 0 min. east, and showed the variation to be now increasing according to the regular order.

During the night we worked up successfully against a south-south-east wind, for at six in the morning the low, outer extreme of Cape Jaffa bore N. 15 deg. E., six or seven miles. The shore is sandy, but rises from the beach to a moderate elevation, and is then well clothed with small wood. About three leagues to the south of the cape is a cluster of low rocks, apparently the same of which Captain Baudin had given me information; they do not, however, lie exactly in the situation expressed in his memorandum and are not more than two miles from the land. We called them Baudin's Rocks, and since no name is applied to them in M. Peron's account of their voyage, the appellation is continued.

Four miles beyond the rocks is a point of moderate elevation; sandy, but mostly overspread with bushes. This is their Cape Lannes, and on its north side is a small bay, called the Baye de Rivoli, with a sandy shore, and open to west winds. The bearings of these places and our situation at noon, half an hour after tacking from Baudin's Rocks, were as under:

Latitude observed to the north—37 deg. 7¼ min.
Longitude by timekeepers—139 deg. 41 min.
Cape Jaffa, extreme—N. 2 deg. E.

Baudin's Rocks, distant three miles—N. 70 deg. E.
Rivoli Bay, about the middle—S. 72 deg. E.
Cape Lannes—distant four or five miles—S. 46 deg. E.
Furthest extreme of the coast—S. 38 deg. E.

For the last two days there had been a little current in our favour, and notwithstanding that the winds had been mostly adverse, we made some progress along the coast; but on opening out the land beyond Cape Lannes the current took a northern direction, and at noon of this day we were no further advanced than to have that cape bearing N. 86 deg. E. at the distance of nine or ten miles. The furthest part of the coast then visible was a peaked sandy hummock, bearing S. 68½ deg. E. In the night the wind came more off the land, and permitted us to make an advantageous tack to the southward, and at noon next day, when we had reached in again with the coast, our situation was in

Latitude observed—37 deg. 23½ min.
Longitude by timekeepers—139 deg. 50 min.
Cape Lannes, west extreme, bore—N. 13 deg. W.
The peaked sandy hummock, distant five miles—N. 22 deg. E.
Furthest extreme—S. 59 deg. E.

In the evening we got sight of a projecting and somewhat elevated part, which lies ten leagues to the south-eastward of Cape Lannes, and appears to be the Cape Buffon of the French navigators. The intermediate coast is similar to that between Encounter Bay and Cape Bernouilli, with the sole difference that the hummocks upon the sandy bank are somewhat higher; nothing inland appeared above them.

The wind was again favourable in the night for making a long stretch to the southward; and it was prolonged to the next day at noon, when our distance from the coast was judged to be ten leagues; but no part of it was in sight, and we had then got out of soundings, there being no bottom at 200 fathoms. The latitude was 37 deg. 57 min. south, and longitude from six sets of distances of stars east and west of the moon, 139 deg. 39 min., but by the timekeepers corrected, 139 deg. 45 min. east. Not more than seven or eight leagues from this situation there should lie an island according to the account given by Captain Turnbull of the Britannia south whaler, who saw it in his passage out to Port Jackson. Having thick weather at the time, he was not able to ascertain its latitude or longitude, otherwise than by the log, and as it was not in sight from our mast head, its position must be considered as very uncertain.

The variations observed this day, with the same compass always on the binnacle, were as under:—

By morning's amplitude, ship's head S.E. by S.—2 deg. 39 min. east.
By morning's azimuth, ship's head S.S.E.—2 deg. 2 min. east.
By evening's azimuth, ship's head N.E.—2 deg. 2 min. east.

The mean, reduced to the meridian, will be 4 deg. 5 min. east. Nine leagues to the north, and half the distance nearer to the land, an amplitude had been taken with the ship's head in the meridian, which gave 4 deg. 8 min. east.

On the three preceding days many tacks had been made from the shore, and I had frequently taken bearings just before the helm was put down, and so soon as the ship was round and the compass steady they were again taken. Differences always took place; and without any exception the bearings required a greater allowance of variation to the right after tacking, when the head was westward, than before, when eastward, agreeing with the differences so frequently found in the azimuths and amplitudes, which had always been to show a greater east or less west variation when the head was on the west side of the meridian. The least average difference in any one of five sets of bearings was 4¼ deg., the greatest 7 deg., and the mean 5¾ deg., and according to the system adopted in correcting the variations, explained in the Appendix No. II. to the second volume, the mean difference arising from the five changes in the direction of the ship's head should be 5 deg. 35 min.

The eastern wind died away at noon of the 16th, and the ship scarcely had steerage way until after midnight; a breeze then sprung up from the north-westward, and we steered north-east to make the land near Cape Buffon. At half-past seven the cape bore N. 1 deg. W. seven miles, and was ascertained to be in nearly 37 deg. 36 min.

south, and 140 deg. 10 min. east. There is a bight in the coast on its north side, where the land was not distinctly seen all round, owing probably to its being a low beach. At nine o'clock we bore away southward, keeping at the distance of two or three miles from the shore. It was the same kind of hummock-topped bank as before described; but a ridge of moderately high hills, terminated to the southward by a bluff, was visible over it, three or four leagues inland; and there was a reef of rocks lying in front of the shore. At noon, two larger rocks were seen at the southern end of the reef, and are those called by the French the Carpenters. They lie one or two miles from a sandy projection named by them Cape Boufflers, but here a prior title to discovery interferes.

On arriving at Port Jackson I learned, and so did Captain Baudin, that this coast had been before visited. Lieutenant (now captain) James Grant, commander of His Majesty's brig Lady Nelson, saw the above projection, which he named Cape Banks, on December 3, 1800; and followed the coast from thence through Bass' Strait. The same principle upon which I had adopted the names applied by the French navigators to the parts discovered by them, will now guide me in making use of the appellations bestowed by Captain Grant.

The termination to the west of that part of the South Coast discovered by Captain Baudin in Le Geographe, has been pointed out; and it seems proper to specify its commencement to the east, that the extent of his Terre Napoleon may be properly defined. The beginning of the land which, of all Europeans, was first seen by him, so far as is known, cannot be placed further to the south-east than Cape Buffon; for the land is laid down to the northward of it in Captain Grant's chart, though indistinctly. The Terre Napoleon is therefore comprised between the latitudes 37 deg. 36 min. and 35 deg. 40 min. south, and the longitudes 140 deg. 10 min. and 138 deg. 58 min. east of Greenwich; making, with the windings, about fifty leagues of coast, in which, as Captain Baudin truly observed, there is neither river, inlet, nor place of shelter; nor does even the worst parts of Nuyts' Land exceed it in sterility.

At noon of the 17th we were in:—
Latitude observed—37 deg. 47½ min.

Longitude by timekeepers—140 deg. 16½ min.
Cape Buffon bore—N. 26 deg. W.
Reef of rocks (nearest part distant 2½ miles)—N. 51 deg. to S. 42 deg. E.
Hills behind the coast—N. 38 deg. to N. 79 deg. E.
Sandy hummock on West Cape Banks—S. 44 deg. E.

In the afternoon the wind veered to the southward, and we tacked from the shore, not being able to weather the Carpenters at the south end of the reef. A long swell rolled in at this time, and seemed to announce a gale from the southward, yet the wind died away in the night; and at daybreak a light breeze sprung up at north-west, and enabled us to close in with the land. We passed the Carpenters at the distance of four miles, but at two in the afternoon the wind again died away. A cliffy point which proved to be the Cape Northumberland of Captain Grant, was then in sight, as also were two inland mountains lying to the north-east; the nearest is his Mount Schank, of a flat, table-like form, the further one, Mount Gambier, is peaked. The following bearings were taken whilst lying becalmed—

West C. Banks, sandy hummock, distant two leagues—N. 2 deg. W.
Mount Schank—N. 70 deg. E.
Cape Northumberland, distant three or four leagues —S. 82 deg. E.

The long swell from the southward still prevailed, and the barometer was fast falling; but at seven in the evening a breeze sprung up once more from the north-west; and after stretching a little off from the shore, we laid to for the greater part of the night. At daylight the wind was at north-north-west, and blew fresh, with squally weather. We reached in for the land; and at eight

C. Northumberland, distant six or seven miles, bore —N. 32 deg. W.
Mount Schank—N. 1 deg. W.
Furthest extreme, obscured by haze—S. 66 deg. E.

Close to Cape Northumberland are two pointed rocks, resembling the back fins of sharks; and on its eastern side were heavy breakers, extending more than a mile from the shore. The situation of the cape, as near as it could be ascertained, is in 38 deg. 2 min. south, and 140 deg. 37½ east.

Beyond Cape Northumberland the coast was found to trend east-by-north, but curved afterwards to east-by-south; it was higher than we had lately seen, and not so barren; nevertheless, the shrubs and small trees did not more than half cover the sandy surface. We pursued the round of the coast at the distance of four or five miles, having three reefs in the top sails on account of the squally weather. At ten o'clock, in a clear interval, land was seen bearing S. 51 deg. E., and a thick squall with rain coming on, in which the wind shifted suddenly from north-north-west to south-west, we were forced to haul close up, and let out the third reefs in order to weather the coast. A constant succession of rainy squalls prevented us from knowing how the land lay for some time, nor could an observation for the latitude be obtained; but at half-past noon our anxiety was relieved by distinguishing the furthest extreme, a bold, cliffy cape, bearing S. 72½ deg. E., broad on the lee bow.

This high projection was the Cape Bridgewater of Captain Grant. A hill upon it slopes to the edge of the cliffs by which the cape is begirt toward the sea; and on the land side it descends so low that the connection of the hill with the main could not be clearly discerned. To the northward and nearly in a line with the first, are two other hills almost equal to it in elevation. As we passed Cape Bridgewater, a second cliffy head opened at S. 73½ deg. E., and a further round the last at N. 83 deg. E. These are the Capes Nelson and Sir W. Grant, though differing considerably in relative position from what they are laid down in Captain Grant's chart.

At two o'clock, the weather having become somewhat finer, I ventured to bear away along the coast; and presently a small island with two hummocks on it and a rock nearer to the shore were visible: these are Lawrence's Isles. The bearings of the land at four were:

C. Bridgewater, top of the hill, distant four leagues—N. 44 deg. W.
Cape Nelson, the south-west extreme—N. 21 deg. W.
Cape Sir W. Grant, east part of the cliffs—N. 12 deg. E.
Lawrence's double Isle, distant three leagues—N. 25 deg. E.

Before six we hauled the wind off shore, having set the double isle at N. 43 deg. W., six or seven miles, and seen the land indistinctly as far as east-north-east.

During the night there were squalls of wind, with hail and rain, but tolerably moderate weather in the intervals. At daylight we bore away for the land, and at half-past seven the

Hill on Cape Bridgewater bore—N. 66 deg. W.
Lawrence's double isle—N. 53 deg. W.
A cliffy, flat-topped isle, west extreme—N. 16 deg. E.

This last is Lady Julia Percy's Isle; and when it bore N. 64 deg. E. five miles, we steered eastwards along the coast. At some distance inland, to the northward of Lady Percy's Isle, a round hill was distinguished, but the shore was scarcely perceptible through the squalls and haze: what little of it could be seen appeared to be sandy and of moderate elevation.

At eleven the land was perceived to the eastward, and we hauled up east-south-east. Our latitude at noon, from an indifferent double altitude, was 38 deg. 33½ min., and it is upon this uncertain observation that the correctness of the neighbouring lands in the chart principally depend; I do not, therefore, specify here either the latitudes or longitudes. The coast was seen to leeward at times, and appeared to be moderately high; we ran along it at the distance of five and from that to eight miles, clewing down the treble-reefed top sails occasionally, and setting them after the squalls were passed. At two o'clock the land appeared to be trending south-east, which obliged us to haul up to the wind and take in close reefs, and the gale increasing, the fore and mizen top sails were handed.

It was seldom that the weather would allow of anything being distinguished beyond two miles; and when the night came on we were quite uncertain of the trending of the coast. At eight o'clock, by favour of moonlight and a short cessation of rain, land was perceived on the lee beam; it seemed to be a head of considerable elevation, and was judged to be from three to six miles off. The fore and mizen top sails and reefed main sail were immediately set, notwithstanding the danger to the masts; and there being much sea running, the ship was kept one point from the wind, to make her go through the water. We had no chance of clearing the land on the other tack, and therefore our sole hope was that the coast might not trend any further to the southward.

At two in the morning the strength of the gale obliged us to take in the fore and mizen top sails and main sail; and we had soundings in 45 fathoms, small stones. Our anxiety was great until daylight, when it was dissipated by not finding any land near us; and in the course of the morning the wind moderated, the barometer began to ascend, and the weather became even fine. Our latitude at noon was 39 deg. 10½ min. and longitude 144 deg. 22 min., the last being 22 min. more than given by the log. High land was then visible astern, extending from about N. 50 deg. to 17 deg. W., at the supposed distance of twelve or fifteen leagues.

This terminates Captain Flinders' description of the south coastline as far as the entry to Bass' Straits.

I will now refer to

Captain J. Lort Stokes, who visited Bass' Straits in 1842, found some of the islands inhabited by old sealers, who called themselves "Straitsmen." At page 448, Vol. II, "Discoveries in Australia, &c.," he says:—

"I found Preservation Island inhabited by an old sealer of the name of James Monro, generally known as the King of the Eastern Straitsmen. Another man and three or four native women completed the settlement, if such a term may be applied. They lived in a few rude huts on a bleak flat, with scarce a tree near, but sheltered from the west by some low granite hills; a number of dogs, goats and fowls constituted their livestock. In this desolate place Monro had been for upwards of twenty-three years; and many others have lived in similar situations an equally long period. It is astonishing what a charm such a wild mode of existence possesses for these men, whom no consideration could induce to abandon their free, though laborious and somewhat lawless state.

The term sealers is no longer so appropriate as it was formerly; none of them confining themselves to sealing, in consequence of the increasing scarcity of the object of their original pursuit. Straitsmen is the name by which those who inhabit the eastern and western entrance of Bass Strait are known; they class themselves into Eastern and Western Straitsmen, and give the following account of their origin. Between the years 1800 and 1805, the islands in Bass Strait and those fronting the south coast of Australia, as far westward as the Gulfs of St. Vincent and Spencer, were frequented by sealing vessels from the old and the new country, if I may use this expression for England and Australia. Many of their crews became so attached to the islands they were in the habit of visiting, that when their vessels were about to leave the neighbourhood, they preferred to remain, taking with them a boat and other stores as payment for their work. There can be no doubt, however, that their numbers were afterwards recruited by runaway convicts.

"On one island reside seldom more than two families. The latter word will at once satisfy the reader that these people were not deprived of the pleasures of female companionship: man was never born to be satisfied with his own society; and the Straitsmen, of course, found beauties suitable to their taste in the natives of the shores* of Bass Strait. It appears that a party of them were sealing St. George's Rocks when a tribe came down on the main opposite and made a signal for them to approach. They went, taking with them the carcases of two or three seals, for which the natives gave as many women. These, perhaps, were glad of the change, as the aborigines of Tasmania often treat them shamefully. The sealers took their new-bought sweethearts to an island in Banks Strait, and there left them to go on another sealing excursion. Returning one day, they were surprised to find their huts well supplied with wallaby by the native women. Interest cemented a love that might otherwise have been but temporary. Visions of fortunes accumulated by the sale of wallaby skins flashed across the minds of the sealers; who, however, to their credit be it spoken, generally treated their savage spouses with anything but unkindness; though in some instances the contrary was the case. It must be confessed, at the same time, that having once discovered the utility of the native women, they did not confine themselves to obtaining them by the lawful way of barter; making excursions, principally to the shores of Australia, for the express purpose of obtaining by violence or stealth such valuable partners. Thus commenced a population likely to be of great service to shipping, particularly as they make excellent sailors and excel as headsmen in whalers, where the keenness of their half-savage eyes, and their dexterity in throwing the spear render them most formidable harpooners. The young half-castes I saw were very interesting, having a ruddy dark complexion, with fine eyes and teeth. On Preservation, and the islands in the neighbourhood, there were twenty-five children, among whom were some fine-looking boys. Had the survey just been commenced, I should have taken one of them in the 'Beagle.' Their fathers, I am happy to say, give them all the instruction in their power; many can read the Bible, and a few write.

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*The islands were never inhabited by the aborigines until the remnant of the original population of Tasmania was sent by Government to Flinders Island.

"The common native belief in the transmigration of souls did not extend, I was glad to find, beyond the mothers, whom nothing could induce to think otherwise. When we were at Preservation Island there was a young woman on her way, in company with her father, to Port Dalrymple, to be married to a European; and I afterwards learned from the clergyman there that he had not for some time seen a young person who appeared to be so well aware of the solemn vow she was making.

"The principal trade of the Straitsmen is in the feathers of mutton birds (Sooty Petrels), which annually visit the islands between 15th and 20th of November, for the purposes of incubation. Each bird lays only two eggs, about the size of that of a goose, and almost as good in flavour. The male sits by day and the female by night, each going to sea in turn to feed. As soon as the young take wing they leave the islands. Their nests are two or three feet under ground, and so close that it is scarcely possible to walk without falling. The collection of the eggs and birds, which is the business of the women, is frequently attended with great risk, as venomous snakes are often found in the holes. When the sealers wish to catch them in large quantities they build a hedge a little above the beach, sometimes half a mile in length. Towards daylight, when the birds are about to put to sea, the men station themselves at the extremities, and their prey, not being able to take flight off the ground, run down towards the water until obstructed by the hedge, when they are driven towards the centre, where a hole about five feet deep is prepared to receive them; in this way effectually smother each other. The birds are then plucked and their carcases generally thrown in a heap to waste, whilst the feathers are pressed in bags and taken to Launceston for sale. The feathers of twenty birds weigh one pound, and the cargoes of two boats I saw consisted of thirty bags, each weighing nearly thirty pounds—the spoil of eighteen thousand birds! I may add that unless great pains are taken in curing, the smell will always prevent a bed made of them from being mistaken for one composed of the Orkney goose feathers. Some of the birds are preserved by smoking, and form the principal food of the Straitsmen, resembling mutton, according to their taste, though none of us could perceive the similarity.

"The habitations of these people are generally slab and plaster, of very rude and uninviting exterior, but tolerably clean and comfortable within. They generally take what they may have for the market to Launceston twice in the year, lay in stores for the next six months, and return home, never, I believe, bringing back any spirits, so that while on the islands, they lead, from necessity, a temperate life.

"It is sometimes in the power of these men to be of infinite service to vessels who are strangers in the Strait, when driven into difficulty by westerly gales. Portions of the islands on which they reside are brought into cultivation."

My recent trip through America has led me to the opinion that more importance should be given to the study of American history in our educational institutions. English history and American history have been developed on different lines, but how many of the average Australian scholars know of the great communities in America, their prosperous condition, their system of

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†They now fetch 3d. a pound; formerly the price was 1s.

education, their municipal and social organizations, their vast territories, and the energy and activities of their people?

It must be admitted that we are undergoing practically the same experiences and mistakes that befell the Americans, but had we been fully acquainted with their history it would have been to our advantage to have thus known of their experiences in similar matters.

The Western Boundary of the State of South Australia.

The determination of the 129th degree of east longitude, the western boundary of this State, is a matter on which I still feel somewhat solicitous, as very little appears to have been done since October of last year. Therefore, on the 22nd inst., I followed up my enquiries of last year* in the Legislative Council with the question: "What steps are being taken by the South Auslian Government to fix the boundary line at 129 deg., between South Australia and Western Australia?" The Chief Secretary (Hon. J. G. Bice) replied: "Arrangements are being made for the initial point on the 129th meridian to be fixed by the astronomers of this State and Western Australia. The co-operation of the other States and of the Commonwealth Government has been asked for. A trial of radiotelegraphic longitude signals, connecting Australia directly with Greenwich, will shortly be made. The Astronomer Royal of England has also offered to assist."

When in London I called upon the Astronomer Royal, Sir Frank Watson Dyson, D.Sc., F.R.S., at Greenwich Royal Observatory (who, by the way, is a relative of our Astronomer, Mr. G. F. Dodwell), and discussed this question of State boundaries with him.

I referred to the long outstanding dispute with the adjoining State of Victoria on the question of the position of the 141st degree of east longitude, as it exists to-day in maps of New South Wales, and also in those of Victoria—the latter in accordance with the decision of the Privy Council, and differing to the extent of about two and a quarter miles in position from the former. As Sir Frank Dyson was evidently not inclined to enter into the controversy between the States as to whether the boundary is that fixed by an Imperial Act or that decided upon by the Privy Council, I did not elicit his views on the matter. He may have thought, in the words of Robert **Burns,**

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*See Proceedings of this Society for last year, Vol. XIX., pp. 93/4.

> "A chiel's amang ye, takin' notes,
> An' faith, he'll prent it."

He appeared to be much interested in the proposed radiotelegraphic longitude signals to be tried in ascertaining the boundary line between South Australia and Western Australia, so we may rely on every assistance on his part.

Three years ago Colonel Sir Thomas Holditch, R.E., K.C.B., K.C.I.E., read a paper before the Royal Geographical Society, London, bearing upon the important question, "Political Boundaries," and later he published his views and experiences upon this momentous subject, to which, I regret to say, very little consideration has been given in Australia by past politicians.

Occasionally we find a reference to the

Boundaries of States.

An early writer on Australian history, the Rev. John Dunmore Lang, D.D., A.M., formerly a member of the Legislative Council of New South Wales, in his interesting history of that State* explains the origin of the first boundary of New South Wales, or New Holland, as it was generally named in the old maps of Australia. He says:

"The commission of Captain Phillip, as the first Governor of New South Wales, comprised the whole extent of the discoveries of Captain Cook, including those of Tasman to the southward, on the Australian continent, from the South Cape of Van Dieman's Land, in latitude 43 deg. 39 min., to Cape York, the northern extremity of the land, in latitude 11 deg. 37 min. south. This vast extent of territory, however, was not intended to form the permanent extent of the colony of New South Wales: it was included in the Royal Commission merely to enable the Governor to exercise jurisdiction in any part of it, and to protect the whole of it from the intrusion of any foreign power. Accordingly, as soon as the subordinate settlement of Van Dieman's Land had become sufficiently populous and extensive to require a separate government, that settlement was erected into a distinct colony, on the petition of the inhabitants, in the year 1825; the proclamation of General Darling to that effect having been issued on the 12th of December of that year.†

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*Note.—An Historical and Statistical Account of New South Wales: including a Visit to the Gold Regions, and a Description of the Mines; with an Estimate of the Probable Results of the Great Discovery. By John Dunmore Lang, D.D., A.M., Third Edition; Bringing down the History of the Colony to the First of July, 1852. Two Volumes. London: Longman, Brown, Green and Longmans. 1852.

"In the year 1838, Sir Thomas Mitchell, Surveyor-General of New South Wales, recommended that the permanent boundaries of the colony, which it had then become expedient to fix, should be the Tropic of Capricorn to the north; Bass' Straits, or the Great Southern Ocean, to the south; and the Murray and Darling Rivers to the west. And in a debate in the late Nominee Legislative Council in the year 1840, Mr. James Macarthur, now member for West Camden, expressed his approval of this recommendation, as did also certain of the other members. If that recommendation had been adopted, the colony of New South Wales would have comprised an area of from 600.000 to 700,000 square miles, and been as large as all Great Britain and Ireland, France and Austria, including the kingdoms of Bohemia and Hungary, the Lombardo-Venetian kingdom, and a large slice of Poland! The idea of combining under the same colonial government so vast an extent of territory is sufficiently preposterous to render any argument on the

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†The population of Van Dieman's Land at this period (1825) was as follows, viz.:

Free persons	6,759
Bond	6,845
Military and children	588
Total white population	14,192

The revenue of Van Dieman's Land for the year 1825 was	£25,618
The expenditure for the same year was	42,781
The imports amounted to	88,161
The exports to	23,837

subject quite unnecessary; and the circumstance of such a recommendation having emanated from such a quarter only shows that men of the highest attainments in one department of human knowledge may be absolutely without an idea in another. In his own department, Sir Thomas Mitchell is doubtless of acknowledged and super-eminent talents; but, in the still nobler science of politics or government, he must be content to occupy a place on the lowest form.*

"In the course of a visit which I paid to the United States in the year 1840, I learned, I confess for the first time, that much of the social comfort and happiness of the American people depends upon the fact of their having their government, in all the more important concerns of life, brought, so to speak, to their own doors, through the division of their common country into a number of separate States, each of which is sovereign and independent within its own territory; for matters of national concernment that come before their General Government have very seldom any important bearing on the relations of private individuals. And I also learned on that occasion that, in cutting up their waste lands into new Territories or States, they had found from experience that, in such a country as theirs, from 40,000 to 45,000 square

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"*Mr. Roebuck promised, in the outset of his late work on the Colonies of England,' to consider the subject of the proper extent of territory that ought to be comprised within the limits of a distinct colony or government; but I could find no subsequent reference to the subject in his book. In the case of continents like America or Australia, which require to be cut up into separate states or governments, this is really an important question; and much of the social comfort and well-being of the future inhabitants may depend on its proper solution. Look at the monstrous disproportion in the dimensions of the old colonies of England in America, and the social evils to which that great political blunder will eventually give rise in that country—the pocket colonies of Maryland, Delaware, Connecticut, and Rhode Island, for example, as compared with the vast provinces of New York, Pennsylvania, and Virginia. It is conceivable that the people of New York—I mean the Empire State, not the city merely—will long allow the mere handful of people in Rhode Island to have precisely the same influence and power in the Senate of their country as they have? Unquestionably there will some day or other be a Reform Bill in the United States, as well as elsewhere, and Rhode Island and the other pocket States will have to take their place in Schedule A."

miles was a proper extent of territory for a separate and independent State. As, however, there is a much larger proportion of sterile land in Eastern Australia than in North America, it would appear to be necessary that Australia should be cut up into much larger divisions than those of the United States, and that these divisions should be determined respectively by the physical character of the country. In traversing, therefore, a large portion of the vast territory which Sir Thomas Mitchell proposed to include under one colossal government, it appeared to me that the Great Creator had evidently formed not fewer than three great centres of agriculture and commerce, of population and government, for that extensive territory, viz., Port Jackson, or the harbour of Sydney, for the middle district; Port Phillip for the southern, and Moreton Bay for the northern; thereby dividing Sir Thomas Mitchell's one great colony into three."

Dr. Lang's references to the boundaries of the States of Victoria and Queensland before their severance from New South Wales are of historical interest. He invited special attention to the importance of the boundaries of Australian States, but the question of extent of territory for separate States has not received the consideration it deserves. When certain areas which are now practically uninhabited are closely settled the experiences of the United States will be repeated in Australia. He continues:

"In the year 1843, when requested by certain of the inhabitants of Port Phillip to become a candidate for the representation of that district in the Legislative Council of New South Wales, I stated, at a public meeting at Melbourne, that I considered it a matter of absolute necessity for the welfare and advancement of the district, that it should be separated from New South Wales, and have a government of its own; and as Sir Thomas Mitchell, who was also one of the candidates, had compared his great ideal colony to a spread eagle, of which Sydney was the head, New South Wales the body, and Port Phillip and Moreton Bay the two wings, I observed that it was high time that one of these wings, viz., Port Phillip, should be lopped off, as I felt assured the other, viz., Moreton Bay, would be also in a very few years.

'And what,' I asked the meeting, 'did they think Sir Thomas Mitchell's spread eagle, or the great colony of New South Wales, would become then?' To which question, as no answer was returned, I replied, to the great amusement and satisfaction of the meeting, that 'it would be much liker a real colonial bird than ever, as it would then resemble an Emu'—a well-known Australian bird, like the Ostrich without wings.

"I have already detailed the particulars of my unsuccessful attempt, in the year 1844, to obtain justice for Port Phillip in this important matter, from the Legislative Council of New South Wales;* as also of the success that attended a subsequent effort, which I suggested, of a similar kind in a different quarter. Foreseeing that the same measure of separation would be equally necessary for the Moreton Bay country in a few years thereafter, and knowing, from my own past experience, that there would be no hope whatever of the concession of such a boon, if it depended in any way on the concurrence of a Legislature in Sydney, I took the liberty to recommend to the Right Honourable the Secretary of State for the Colonies, when in England during the years 1847, 1848, and 1849, that in any future Act of Parliament for the better government of the Australian Colonies, a clause should be inserted authorizing Her Majesty to erect into a separate and independent colony the portion of the Australian territory situated to the northward of the 30th parallel of south latitude, or the Moreton Bay country. The grounds on which I based this recommendation were the following, viz.:

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* Considering the wonderful development of Port Phillip or Victoria, since that portion of the Australian territory became a separate and independent colony on the 1st of July, 1851, the reader will, perhaps, be surprised at the unreasonable conduct of the Legislative Council of New South Wales on the occasion referred to, in endeavouring to maintain and to perpetuate its own authority over that province, and in refusing to countenance in any way the unanimous desire of its inhabitants to obtain a government of their own. But the Legislature of New South Wales acted on that occasion in perfect accordance with a law or principle of human nature of much more extensive operation than the reader may, perhaps, suspect. The law or principle I allude to is this, that a dominant people—whether a mother country or a mother colony—will never surrender their authority over a subject people, until they are compelled to do so by the stern law of necessity. The two classes of people contemplate the matter at issue between them in totally different lights, and from totally different points of view; and no wonder, therefore, if they arrive at conclusions diametrically opposite. The subject people, for example, who are calling out either for a separate government, or for entire freedom and independence, regard the matter at issue as a question of right, of justice, perhaps even of social life and political existence. The dominant people, on the contrary, regard it only as a question of honour and glory, of dominiòn and empire; never troubling themselves to examine the foundations of their own claims, or to subject them to the test of natural right and eternal justice, but taking it for granted that it were sacrilege and rebellion either to question or to impair them. In short, man, both in his individual and in his political capacity, is essentially a tyrant! his brother's liberties are never safe in his hands. The unhallowed lust of power, of dominion, of empire, which he inherits from the fall, is one of the strongest passions of his nature, and everything will be sacrificed for its gratification. The comparatively minute question between the dominant people of

"1. That Moreton Bay is as evidently designed by the Creator to be a great centre of agriculture and commerce, population and government for the surrounding country as Port Jackson and Port Phillip respectively.

"2. That a change of climate, indicated by a remarkable change in the vegetation, takes place at the 30th parallel of latitude; the Moreton Bay country being much more of a semi-tropical character than New South Wales Proper; and

"3. That there are three bar-mouthed rivers (the Clarence, the Richmond, and the Tweed) all available for steam navigation, and presenting a vast extent of land of the first quality for settlement, between the 30th parallel of latitude and Moreton Bay, which would thus be in their immediate vicinity; whereas the coast, for upwards of 200 miles, in the opposite direction towards Sydney, is an iron-bound coast without shelter of any kind.

New South Wales and the subject people of Port Phillip in the case referred to is now rapidly expanding itself into the much larger question between the dominant people of the mother country and the subject people of the Australian colonies; and I shall be greatly mistaken if the dominant people in the one case will not act precisely as the dominant people would have done, if they could, in the other.

"'There are instances,' says Professor Heeren, of Gottingen, 'in which individual rulers, weary of power, have freely resigned it; but no people ever yet voluntarily surrendered authority over a subject nation.'—'Reflections on the Politics of Ancient Greece.'"

"These reasons appear to have carried weight at the Colonial Office, for, to my great gratification, I found that the Australian Colonies Act of 1850 authorised Her Majesty to erect the country to the northward of the parallel of latitude I had indicated into a separate colony and government, on the petition of the resident inhabitants; and so rapid has been the progress of the northern settlement, and so cordially has my idea been taken up in the district, that in the month of November last, petitions to Her Majesty for separation from New South Wales were unanimously adopted at public meetings of the inhabitants, numerously and respectably attended, at Brisbane and Ipswich, the two principal towns in that part of the territory.

"There will thus be three noble colonies—each with its own separate government, the seat of which will be at a comparatively moderate distance from the extremities of the system, and consequently much more under popular influence and control—in the territory which Sir Thomas Mitchell would have delivered over to a heartless and despotic system of centralization.

"The boundaries of New South Wales Proper are, therefore, a coastline of upwards of 500 miles on the Pacific Ocean, from Cape Howe, in latitude 38 deg., to the Solitary Isles, or the 30th parallel of south latitude; from thence, due west, to the 141st degree of East longitude, the Eastern boundary of the colony of South Australia; then along that boundary to the Murray River, in latitude 34 deg.; then up the Murray River, to its source in the Australian Alps, and from thence to Cape Howe. There is still indeed a boundary question open between the colonies of New South Wales and Port Phillip or Victoria; for, as there are places on the north bank of the Murray River within 150 miles of Melbourne, and about 500 miles from Sydney, it is obviously contrary to all reason and justice that these places should belong to New South Wales and not to Port Phillip. But now that private interests have been created in the case, it will be exceedingly difficult, if at all practicable, to have an equitable boundary line struck between the two colonies; for, however unjust it may be to the localities in question, the Legislature of New South Wales is not likely to yield a single inch of territory to Port Phillip, to the northward of the Murray River. If a proper boundary had been struck by Commissioners appointed for each of the two colonies seven years ago, when the principle of separation was first conceded at the Colonial Office, on the petition of the Port Phillip members, the object might have been effected with the utmost facility, and with the greatest benefit to all parties interested; but I fear it is too late now.

"But this gross neglect of the Imperial authorities in not striking proper boundary lines at the proper time has been the characteristic of the Imperial government of the Colonies all along. Within the last few years it has twice brought the Mother Country to the brink of a war with the United States of America—first, in the case of the boundary between the colony of New Brunswick and the State of Maine; and, secondly, in the case of the Oregon territory; in the final settlement of both of which cases every intelligent Englishman must admit that a large sacrifice of British territory was made to the Genius of the Union, through the inexcusable neglect of the proper authorities in the Mother Country at the proper time. But this evil, as I have just remarked, has unfortunately been of long standing in the British government of the colonies.

"'A fairer adjustment of the limits of Connecticut and New York,' observes the historian of the Colonial period of the United States, under the year 1664, 'was found necessary at a subsequent period, and "was not accomplished without violent dispute and altercation between the two provincial governments." '*

"And again: 'Bidding adieu to the peaceful scene of his infant commonwealth (Anno 1685), Penn transferred his presence and action to the very dissimilar theatre of the Court of England. The first fruit of his enhanced influence at Court was the adjudication that terminated his controversy with Lord Baltimore, and secured to him the most valuable portion of the Delaware territory.

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*Grahame's Hist. of United States, II, 188.

This adjudication was not so distinct as to prevent much subsequent dispute respecting the precise boundaries between Delaware and Maryland, which continued to distract the inhabitants on the borders of these provinces, till it was adjusted in 1750, by a decree pronounced in Chancery by Lord Hardwicke. This decree was not finally executed till the year 1762! Nothing was more common for a long time in the American provinces than disputes arising from uncertain boundaries. *

"The area comprised within the limits of New South Wales Proper is about 300,000 square miles, that is equal in extent to Great Britain and France; Port Phillip, or the Colony of Victoria, being as large as Great Britain, and Van Dieman's Land as large as Ireland."

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*"Grahame's Hist. of the United States, II, 354. The case of the boundary between the colonies of New South Wales and South Australia, fixed by the Imperial Parliament in the year 1834 or 1835, is quite a case in point. That boundary was then declared to be the 141st meridian of east longitude. But what body of men having merely plain common sense to guide them, instead of the transcendental wisdom that must be supposed to animate an Imperial Parliament, would ever have thought of making a meridian of longitude the boundary between two conterminous provinces or governments? The difficulty is to find where the prescribed meridian of longitude is; for Captain A., with his first-class Troughton's chronometer, No. 1649, says it is here; while Mr. B., who works it out by lunars, says it is there; and Mr. C., who has got his time-piece regulated in Sydney, and works back, says it is neither the one nor the other, but in some third place of his own. There had actually to be a commission appointed by the two colonies to find the 141st meridian, and to stake it off with a row of pillars erected along the line, to inform the inhabitants of the two colonies respectively where they were! It is perfectly amazing, indeed, that it should never have suggested itself to the Collective Wisdom to make the 141st meridian a boundary merely 'pro tempore, until the nearest natural boundary should be ascertained and fixed.' In that case the Murray River would have been the natural boundary towards the ocean, and the Darling River, for a certain distance northward, towards the interior. In like manner, in proposing the 30th parallel of latitude and the Tropic of Capricorn as the boundaries of the Moreton Bay province, I contemplated the ultimate establishment of the nearest natural boundary in both cases. What are fifty or even a hundred miles either way, in comparison with the importance of fixing a strongly marked and unmistakable line of separation between two conterminous provinces "

Flinders' Chase, Kangaroo Island.

In my annual address of October 30th, 1914 (vol. XV., p. 48), I stated that the Government had reserved and set apart the whole width of the western end of Kangaroo Island (with the exception of the Cape Borda Lighthouse reserve), which was named "Flinders' Chase", as a great National Park for the protection and preservation of native fauna and flora. A Board has now been established to control the reserve.

Public Library Board.

This Society is still being ably represented on the Board of Governors of the Public Library, Museum and Art Gallery by Mr. W. B. Wilkinson, J.P., who was unanimously re-elected for the eight year.

Obituary.

It is again my painful and obligatory duty to record the loss of an unusually large number of members by death during the year under review.

Foremost is Sir Edward Charles Stirling, C.M.G., F.R.S., M.A., M.D.Sc. Cantab., F.R.G.S., C.M.Z.S. By his death South Australia and science generally has been deprived of a notable scholar and eminent scientist. In March, 1891, Sir Edward visited Port Darwin and returned overland (see Presidential Address, Oct., 1915. p. 57) with Lord Kintore, who was then Governor of this State. Three years later, in May, 1894, he was one of the members of the Horn Scientific Expedition to Central Australia, in the interests of anthropology; and, subsequently, he visited Lake Callabonna (Lake Mulligan) in company with Mr. Zietz, and secured very valuable fossil remains, including those of the Diprododon, now in the Adelaide Museum. Although he occupied no prominent position in this Society he was ever ready to assist in matters dealing with the aborigines of this State.

The last survivor of the John McDouall Stuart Exploring Expedition, John W. Billiatt, who resided at Radnor Villa, Mount Radford, Exeter, England, died at his English home in April last. The Premier (Hon. A. H. Peake), when on a visit to England in April, 1913, presented Mr. Billiatt with a gold watch on behalf of the South Australian Government. At a banquet, held in the Town Hall, Adelaide, in July, 1912, it was announced that there were at that time only five surviving members of the Expedition, four of whom were present at the banquet, and were each formally presented with a gold medal. The fifth medal, that of Mr. Billiatt, was forwarded to him through the Agent-General in London. In addition to these presentations was that of a gold watch and chain to Mr. W. P. Auld, and money grants to Messrs. King, Nash, and McGorrery, the other South Australian survivors.

Our Society has also suffered the loss of the following members:—Messrs. Frank W. Giles (who was for several years secretary to this Branch), Gavin F. Gardner, George Bagot, F. W. Fleming, Walter Gooch, E. H. Limbert, H. J. Scott, Walter Reynell, W. T. Clindenning, and the Hon. J. H. Howe, M.L.C.

York Gate Library.

Our limited income at present, and the very high cost of printing our Annual Volume, necessarily restrict our purchases of fresh books; exchanges, however, received from learned societies in different parts of the world, are much valued, and keep our library to that extent supplied with current scientific literature.

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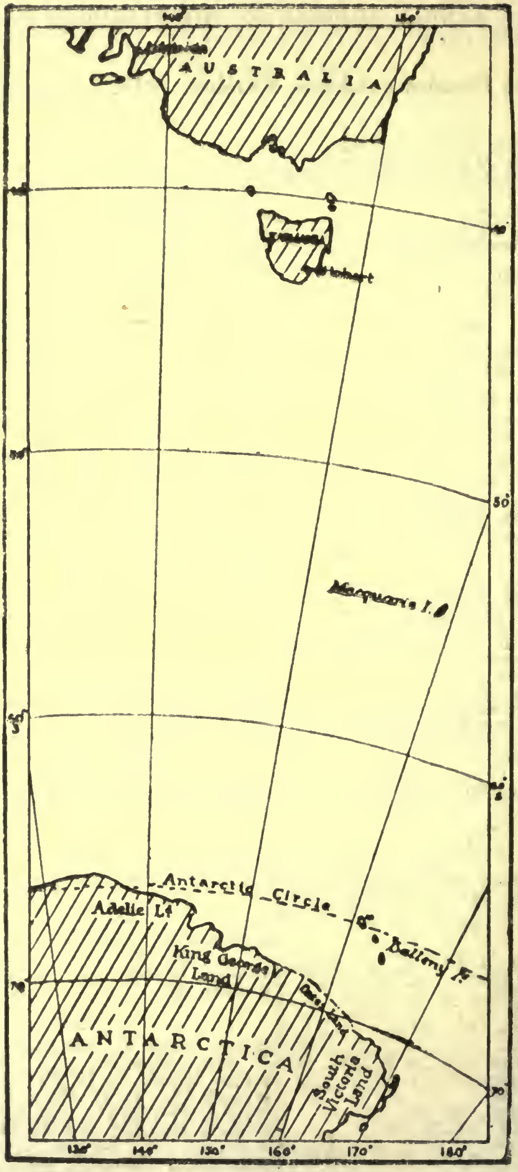

Map showing the situation of
Macquarie Island.

MACQUARIE ISLAND

A Sanctuary for Australasian Sub-Antarctic Fauna

By

SIR DOUGLAS MAWSON, D.Sc., B.E.

Macquarie Island would be sufficiently interesting were it only that it is the southern outpost of Australasia; but it is at the same time almost unique in zoological interest harbouring, as it does, practically all existing species of sub-Antarctic bird and seal life. It is situated some 900 miles south-east of Tasmania, in latitude 55 deg. S., far distant from any other land—a tiny dot in the midst of the vast Southern Ocean.

This little Island is one of the wonder spots of the world. It is the great focus of the seal and bird life in the Australasian sub-Antarctic Regions, and is consequently of far greater significance and importance in the economy of that great area than its small dimensions suggest. This being so, it behoves those responsible for its good keeping to see to it that the animals resorting thereto are properly protected against any possibility of extermination. Since no measures have yet been taken to secure this desirable end, I am seizing this opportunity to bring the subject further under notice, hoping that the weight of public opinion will result in something being done with these few square miles of land, worthy of the great country to which we belong.

HISTORICAL REFERENCE.

Macquarie Island was discovered* in the year 1810 by Captain Hasselborough of the ship *Perseverance*, despatched by the owners from Sydney to search for islands inhabited by fur-seals. It was named "Macquarie," after the (then) Governor of New South Wales.

When Hasselborough fell in with the Island he found it teeming with fur-seals, and so made a rich haul. There was a rush of vessels down there during succeeding years. One ship alone is reported to have left its shores with a cargo of 35,000 skins. The quality of the skins was reported to be excellent, and they brought high prices on arrival in Sydney. Alas, the sealers killed without discrimination, slaughtering even the mothers and the young, resulting in the practical extermination of the species. So within a few years the fur-seals, to all practical purposes, no longer existed, and sealers ceased to visit the Island.

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* "Murihiku, a history of the South Island and the Islands adjacent, 1642-1835," by Robert McNab. Whitcombe & Tombs, Ltd.

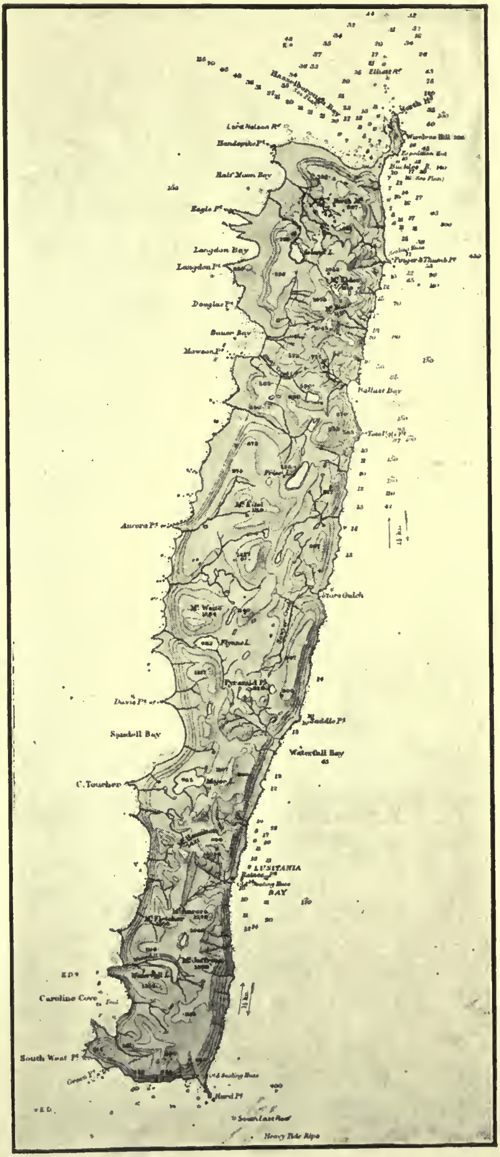
Then followed a long period concerning which there is very little historical information available, except that the Russian Antarctic Expedition of 1821 called in for a few hours(as also did the *Peacock* of Wilkes' Squadron in the year 1840. In the reports of those Expeditions both remark upon the myriads of the feathered inhabitants. Other historical echoes from last century come to us as harrowing tales of shipwreck upon the rocky western coast, for, in the palmy days of the sailing clippers, vessels often descended so far south *en route* from Australia to Europe.

PHYSIOGRAPHY.

In outline the Island is long and narrow, being over twenty miles in length, and with a fairly uniform width of three to three and a half miles. The rocks are chiefly volcanic, and rise rather abruptly as a ridge from the floor of the deep sea.

The salient physiographic feature is the steepness of the land; the summit forming a miniature plateau having an elevation above the sea-level of 1,000 feet or thereabouts. For the most part the coasts are abrupt, but at intervals, especially on the north-west side, a low peaty raised-beach platform of recent formation leads from the water to the foot of the steep land-slopes; it is on these tussock-strewn, boggy flats that the sea-elephants congregate.

The island lies buried in mist and fog, amidst the turmoil of the great rolling seas which, in those latitudes sweep unchecked around the Globe. Strong westerly winds so typical of the southern "fifties" are a feature of the climate. The temperature, though low, is maintained surprisingly uniform owing to the great body of surrounding ocean. The mean annual temperature ranges between 38 deg. and 40 deg. F.; as an absolute



MACQUARIE ISLAND

(From the Admiralty Chart, compiled chiefly from surveys by Australasian Antarctic Expedition).

maximum for the year 50 deg. F. is practically never exceeded, nor does the temperature ever fall below 20 deg. F. as an extreme minimum.

October is the coldest month, probably owing to the near approach of the Antarctic pack ice, which begins to break up and push north about that time. In the winter the warmest periods are always during fogs; a fact which demonstrates the large amount of latent heat set free by the act of condensation of water vapour.

The mean temperature of the sea is about 40 deg. F., with an annual range of about 4 deg. Rain, usually of the light misty variety, occurs on almost every day of the year. Snow falls frequently in winter, but always in light showers so that no considerable drifts ever accumulate.

The strong westerly wind, almost continuous throughout the year, combined with the driving rain and an even low temperature result in a climate more severe than the temperature indicates—almost, but not actually glacial.

Though, at the present day, there is no permanent ice on the land, abundant evidence remains of the former existence in the near past of a complete capping. The pebbly wastes of the plateau are relieved at intervals by quaint tarns and lakelets of glacial or partly glacial origin. Even in these days, icebergs have been known to appear off the coast; whilst erratic blocks of Antarctic granite, evidently rafted north on floe-ice or icebergs, are to be met with on the sea shores.

THE VEGETATION.

Under such climatic conditions it is little wonder that no trees are to be found growing upon the bleak Island slopes. The combination of wind plus low temperatures is evidently too formidable for ligneous growths; but tussock-grass as well as various ferns are abundant enough, thriving in the more favoured spots. The low ground near the sea and the steep hill sides are thus clothed, but on the plateau summit of the Island, however, the ceaseless wind has left only a mantle of gravel, broken here and there by stools of moss and other low forms of plant life.

The vegetation, such as it is, is often curiously arranged in parallel rows, strung out along the direction of the wind. The explanation that has been advanced to account for this phenomenon is that once a plant is established it offers, behind it, wind shelter for the rooting of seedlings, so that a line of younger generations develops progressively down-wind from the original plant.

In favoured spots the tussock grass grows luxuriantly, often several feet in height. Another notable herb is the Maori cabbage, whose fleshy stems and large leaves are excellent fodder for sheep, and even serves, in the absence of green vegetables, for human consumption.

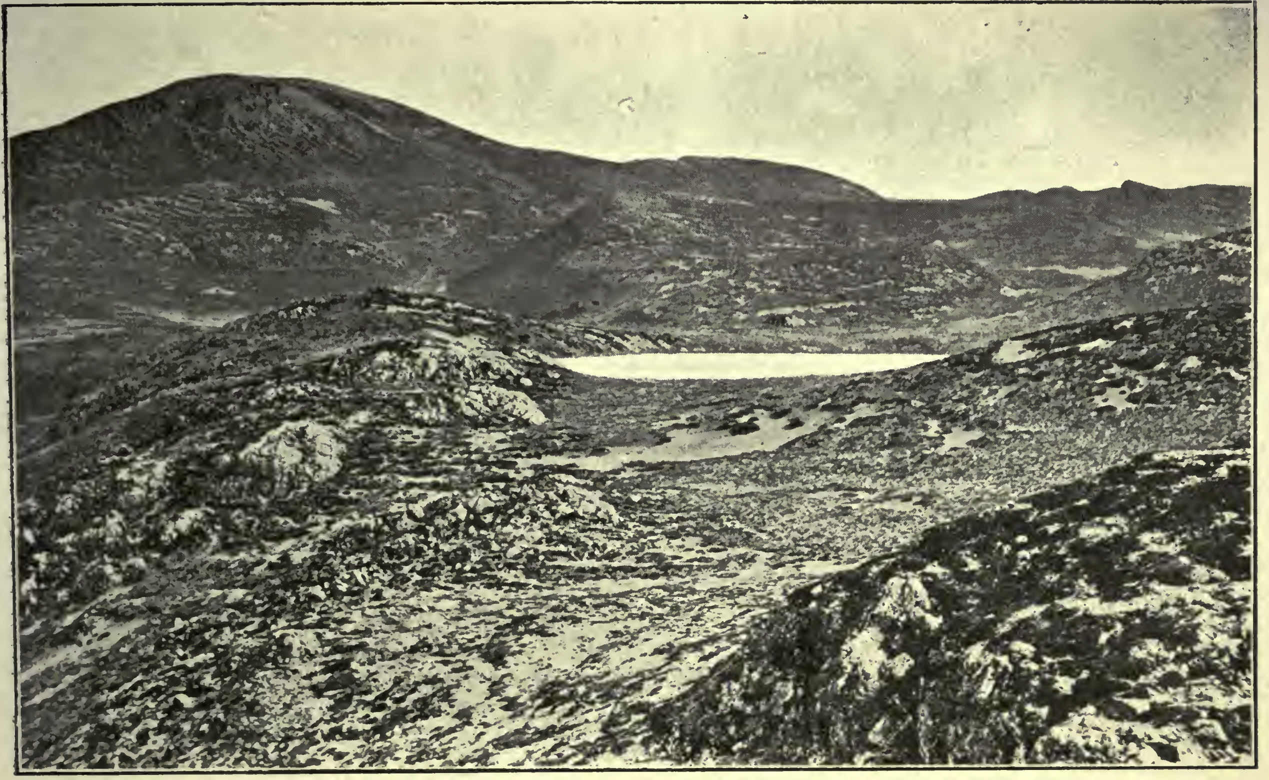
THE ANIMAL LIFE.

Though possessed of a rather miserable climate and not particularly attractive on account of its vegetation, the Island, nevertheless, exerts an indescribable attraction towards the bird and seal life of those wide sea spaces. It is *terra firma* where all may congregate in the breeding season to propagate their species.

The penguins throng the beaches and mount to their rookeries high upon the hill sides. There are four species of these quaint birds regularly breeding there, namely, the King, the Royal, the Victoria, and the Gentoo penguin.

The King penguin is a noble bird attaining some three feet in height. The feathers of the head are black, with a faint greenish tint; the back is bluish grey; around the neck is an orange yellow band passing downwards through lemon yellow shades to a white breast. Only one rookery of these birds now exists, and their numbers are very much reduced, for they were formerly slaughtered wholesale. These birds remain about throughout the year, for they continue to feed their young for a period extending over two seasons before complete weaning is effected.

The smaller species of the penguins mature their young in the short space of one season, and then quit the Island until the next breeding period; however, some of the Gentoos are always to be found throughout the year hanging about their old haunts.



A view on the elevated plateau of the Island.
(Mount Elder on the left).

Photo: *R Blake*

The most numerous of these interesting types of feather folk are the Royals, the two largest rookeries of which cover over 16½ and 10 acres, respectively, the former comprising about three-quarters of a million birds.

Besides the penguins many species of flying birds resort to the Island to lay their eggs, namely, Albatrosses, Petrels, Prions, Terns, Gulls, Skuas, Cormorants, etc. Of shore birds there are Ducks and Wekas, the latter introduced from New Zealand some 25 years ago, and now multiplied exceedingly. Formerly a species of flightless parrot, endemic to the Island, was very plentiful, but these have long ago been completely exterminated.

Of seals, the Fur-Seal is practically extinct; only the Sea-Leopard and the Sea-Elephant remain. Both of these are still plentiful enough, but the Sea-Elephant is so hunted in all its haunts that its extermination is now only a matter of a few years, unless adequate measures are adopted for its protection. This great beast is one of the largest animals existing on the Earth to-day, the bulls reaching a length of at least 20 feet, though the sealers report that old fellows as much as 25 feet in length sometimes come ashore.

After some months absence, apparently spent roaming the high seas, the bulls appear at the Island towards the end of August. A couple of weeks later the cows come out of the water and congregate ashore in large rookeries, preparatory to giving birth to their young.

The breeding season lasts from September till the middle of November, and by the end of the latter month all the full grown elephants, both bulls and cows, have departed leaving only the young ones on the beaches. As the adults disappear the half-grown young of former years come ashore to moult.

The Sea-Leopards, on the other hand, are never quite absent from the Macquarie shores; though they are more abundant between July and October, and less frequently met with after October at which period they depart to sea to give birth to their young.

ACCLIMATIZATION OF DOMESTIC ANIMALS.

Sufficient has been said to illustrate that, though the climate is not in the least attractive, yet a wonderful fauna exists there, and it is quite certain that the Island would support some of our domesticated animals or fur-bearing animals if introduced and acclimatised. Some experiments have already been made in this direction by Mr. Ainsworth of the Australasian Antarctic Expedition, and more particularly by Mr. Tulloch* who under the direction of Mr. H. A. Hunt, Commonwealth Meteorologist, maintained the Meteorological Station there after the conclusion of the Expedition.

The Tasmanian Government supplied Mr. Tulloch's party with sheep, fowls and ducks with which to experiment. For this purpose about a dozen sheep were let loose to roam at liberty and forrage for themselves. Though there was considerable mortality amongst the pure bred stock, the cross-bred sheep did well enough. Mr. Tulloch sums up by stating that the experiments proved that sheep will live and thrive on the Island; further, that they will breed and the lambs can withstand the exceptional climate.

The fowls and ducks laid fairly well; but the result from three sittings of fowl eggs was most disappointing, namely, only two chickens hatched out. It is thought, however, that with the acclimatisation of the birds, and experience in rearing the young under the local conditions, they could be made to multiply satisfactorily. At any rate, a very good omen was forthcoming in the fact that the older of the two chickens reared on the Island commenced to lay within six months and continued to furnish eggs at three times the average rate of the imported fowls.

Reference has already been made to the abundance of Wekas or Maori hens, originally brought over from New Zealand, and now to be found everywhere, hiding and feeding amongst the tussock grass. The island conditions evidently fully agree with them.

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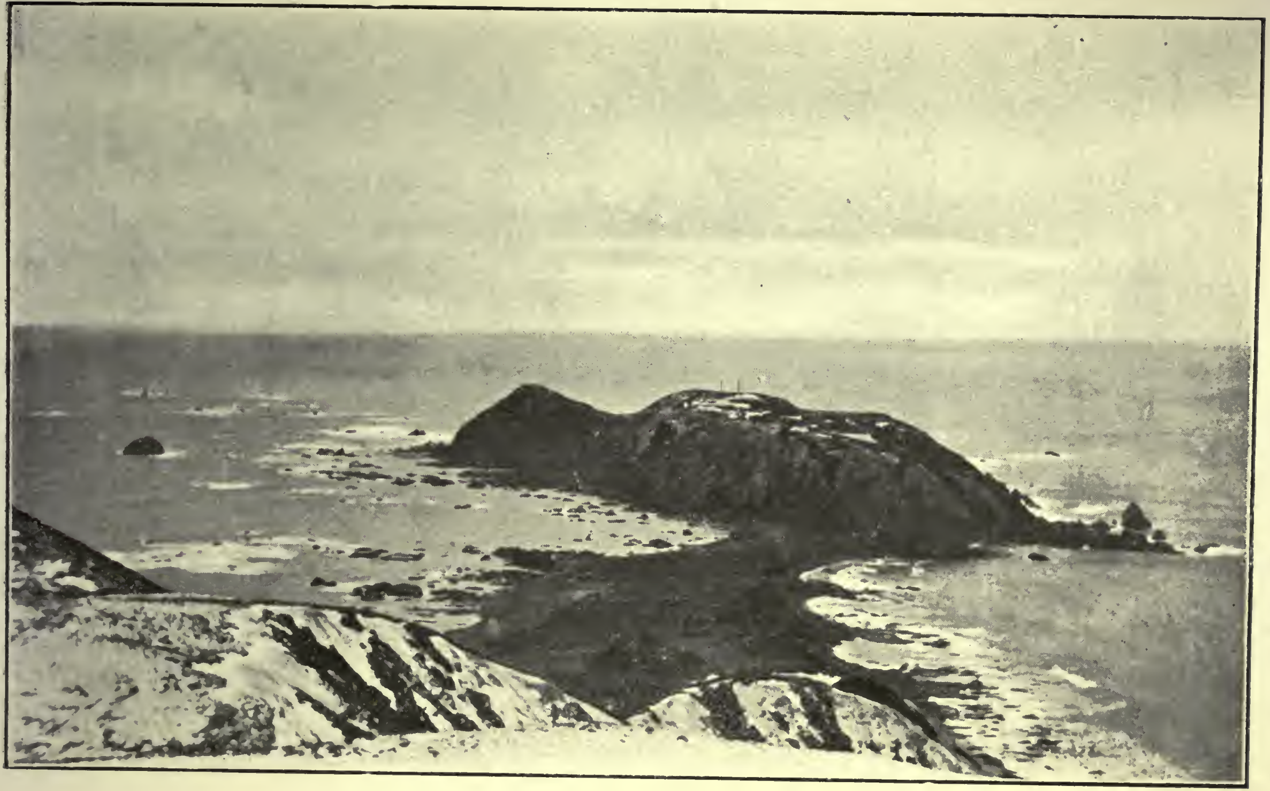
*"Report on Macquaric Island," by A. C. Tullock: Parl. Paper No. 7; Hobart, 1916.



The Spit, and the northern extremity (Wireless Hill) of Macquarie Island. Photo: *R. Blake*

Cats and rabbits have also been let loose by sealers in past times. The latter appear to be multiplying, but not very rapidly. The cats are also on the increase and are an unqualified curse, for the defenceless bird life is an easy prey to them.

THE DESIRABILITY OF PRESERVING THE ISLAND AS A SANCTUARY FOR THE FAUNA AND FLORA OF THE SOUTHERN SEAS.

From these observations it will be seen that, were it considered desirable, the Island might be made of use for rearing sheep and other stock. However, I hold strongly that it has a better future merely as a breeding ground for the indigenous migratory fauna of the Southern Seas.* This should be the first consideration, for in the end it will pay the nation best to so reserve it. The value of such a policy lies not merely in its educational, its pleasure-giving, and its scientific aspects which are weighty enough; but in the fact that there, to that small and convenient area, flock a large part of the life of the great Southern Seas, representing the principal economic product of that enormous slice of the World's surface. The smaller life in those seas is not available to us directly as such, but the penguins and the seals do the fishing and thrive thereon. It is, consequently, open to us now either to slaughter these animals, and so cut off the possibility of reaping the harvest of the Southern Seas, or to take measures to protect them, increase their numbers, and so hand down a legacy to posterity.

If we totally disregard the value to science of perpetuating this life for study and observation in the future; if we take no count of the pleasure which such an island of animal life must afford future generations of the human race who, alas, are destined to live in a world more and more robbed of its former varied fauna and flora; if we are not perturbed at the prospect of an ocean devoid of the bird life so welcome to the ocean voyager; if we give no thought to the economic possibilities of exploitation in future times; and finally if the wholesale destruction of animal life leaves us unmoved, then we may proceed to continue with the unchecked slaying for the pence that it returns and with no thought for the morrow.

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*By establishing such a sanctuary, the Australian Government would be doing no more than has already been accomplished on the other side of the World by the Uraguayan Government. There they have set apart Lobos Island for such a purpose.

THE EXISTING BLUBBER OIL INDUSTRY.

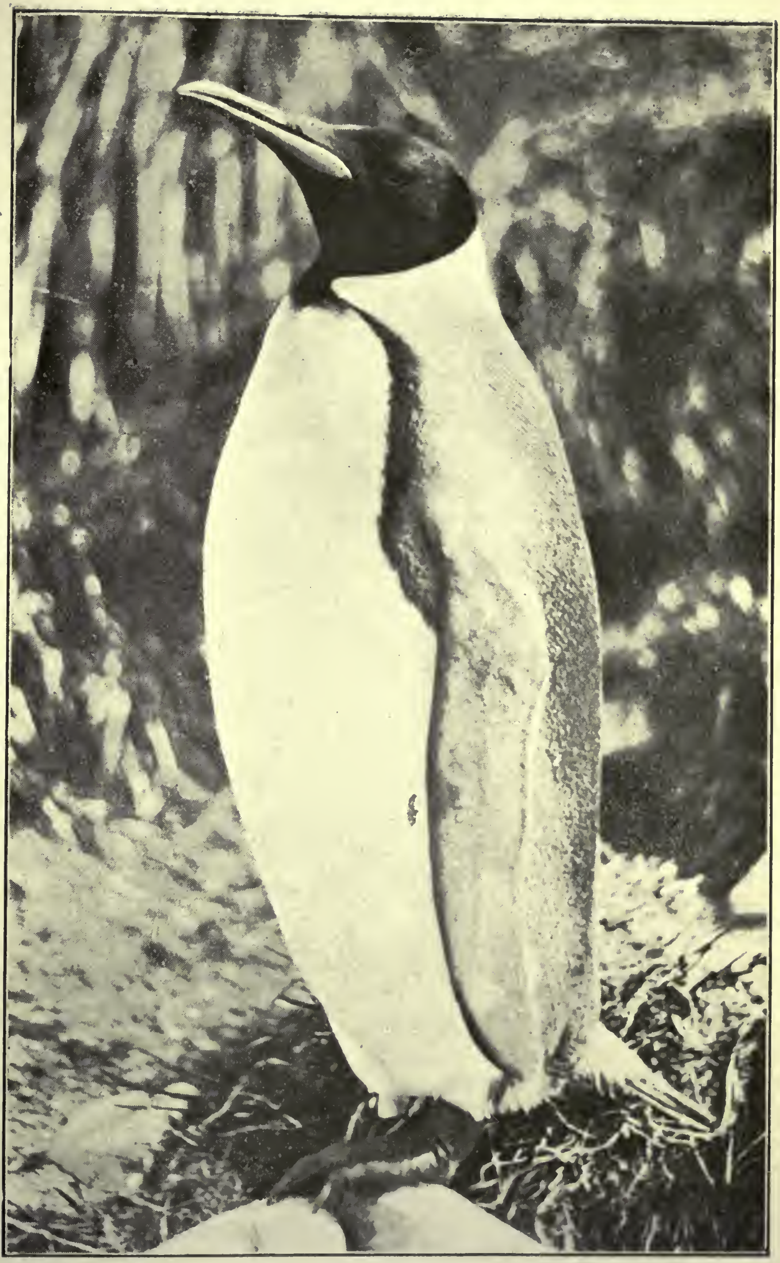
It is interesting to enquire into the seal oil and penguin oil industry as conducted at Macquarie Island, with a view to ascertaining whether the great slaughter is compensated by any comparable financial gain. So far as I have been able to learn, the trade as conducted there in the past, from a financial standpoint, offers no great inducement over that the normal occupations of the work-a-day world.

For very many years past, such slaughter as has been carried on has been conducted by New Zealanders with headquarters at Invercargill. The Tasmanian Government under whose jurisdiction the Island remains, has been in the habit of leasing it to the New Zealand party at a nominal rental, the difficulty of collecting which appears to have, at times, resulted in nothing at all being paid.

At the time that the Australasian Antarctic Expedition visited the Island it was under a lease for a period of six or seven years at, I believe, a rental of £20 per year. Subsequently, I am told, the rent was increased to £40—not a very large sum, as an offset against which was the destruction of some 700 sea-elephants and from 100,000 to 300,000 penguins per annum.

A single penguin yields very little oil indeed, and it does seem a shame for the handsome golden crested Royal Penguins to be put through the melters merely for the half pint or so of oil that they represent; and the value of the product is chiefly discounted by the costs entailed in working at such an out of-the-way place.

With the Sea-Elephants it is different, for the bulls are clothed in a thick layer of blubber, as much as eight inches in thickness. They yield on the average about 1,100 lbs. of oil and consequently each represents a considerable value. At the date of which I am speaking, the oil brought somewhere about £20 per ton landed in New Zealand.



A KING PENGUIN. Photo: *H. Hamilton*

The rendering of the blubber was formerly conducted in large iron pots, termed "try" pots, heated below by burning the gristly refuse from the pots themselves.

The system adopted at Macquarie Island at the present day is that of steam digesters, heated by the combustion of coal.

The elephant blubber or penguin carcases, the latter having been clubbed (either stunned or dead) are packed in, the door screwed up and superheated steam turned on for 12 hours. The fat runs away into tanks and is barrelled for shipment; the bones, the flesh and the feathers are dumped as refuse.

It is argued that this is a very humane way of dealing with the penguins; but, to those who know how tenacious of life is the penguin, a quicker and more certain method of killing is desirable if the trade is to continue.

The season normally lasts about four months. September and October are the months for elephant oil, while the sealers turn their attention to the penguins in November and December.

Until recently, only sailing craft were employed plying backwards and forwards to the Island, and on account of the boisterous weather and the absence of harbours, a fair proportion of them came to grief on those rocky shores It was doubtless owing to such risks and losses that those engaged in the industry never made their fortunes by it. So far as I could ascertain after seven years of operations, and the slaughter of an enormous number of animals, the lessee was no better off, if so well, as would be expected by the application of his energies in other directions. As for the Tasmanian Government, if they managed to collect the rent, they were a hundred or two hundred pounds to the good, a sum which many a Tasmanian citizen would doubtless have paid to save the attendant slaughter.

In the year 1914, however, the trade was given a fillip by the flotation in New Zealand of a small company to prosecute the work with more vigour. The original exploiters continued to be connected with the concern. One step in advance was the fitting out of their vessel with auxiliary engines, this would undoubtedly increase the efficiency of their operations. Another measure, which seems to have been expressly passed for their advantage, was the repeal by the New Zealand Government of the Act protecting the seal life on the New Zealand sub-Antarctic Islands (The Auckland Islands, the Campbell Islands, etc.).

On the repeal of this Act there was a great outcry in New Zealand, but the Government seemed to have made up its mind about the matter, and so the "Southern Islands Exploration Company" prospered. This action of the Government will never be forgotten, however, for there appeared no justification whatever.

The Act was originally put into force to try to save the last remnants of the almost extinct Southern Fur-Seal, which formerly abounded on Stewart Island and the New Zealand sub-Antarctic Islands as well as on Macquarie Island. After some years of protection Mr. Waite in 1909, then curator of the Canterbury Museum, after a visit to the southern islands reported* as follows:—

> "It is pleasing to be able to report that during recent years the numbers of the fur-seal have increased, and if the poaching which undoubtedly takes place can be stopped there is no reason why the animal should not again people its old haunts."

So the Act was repealed just at a time when it had shown its usefulness and was wanted more than ever.

Subsequent to the repeal of the Act, the New Zealand press† from time to time, on the return of killing parties, reported the results of crusades against the Fur-Seal, by which it is evident that probably none of these valuable and interesting animals have now escaped final destruction.

THE DWINDLING FAUNA AND CORRECTIVE LEGISLATION.

The extermination of the Southern Fur-Seal, the great reduction already effected in the numbers of the sub-Antarctic penguins and the rapid dwindling of the Sea-Elephant, already extinct in many of its old haunts, gives sufficient cause for anxiety regarding the future of

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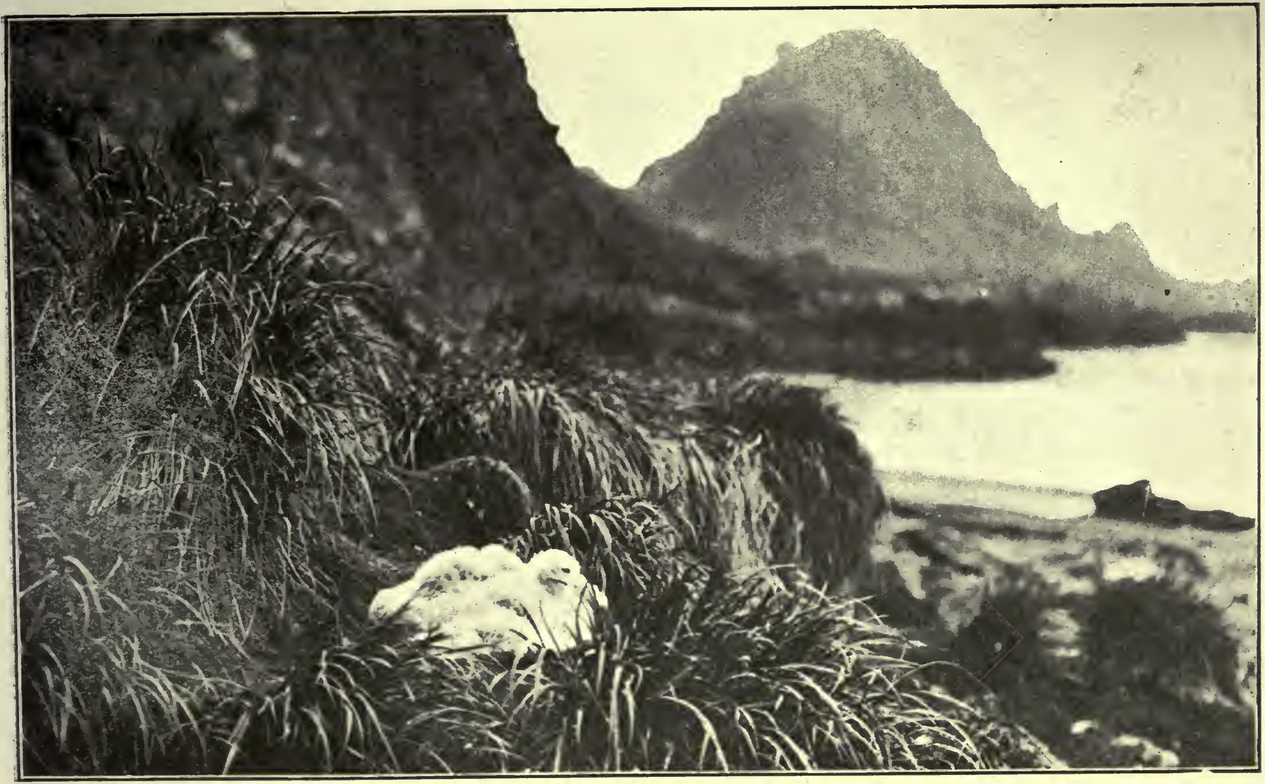
*"Sub-Antartic Islands of New Zealand," Vol. II., p. 548.

†"The Evening Star," Dunedin, Nov, 16, 1916.



A Giant Petrel Chick on the nest.

Photo: *D. Mawson*

the southern fauna. In this connection it is not only the case of Macquarie Island that is in question, but that of the whole of the Antarctic and sub-Antarctic regions. The tameness of the animals in those parts leaves them an easy prey to man, and if the slaying is uncontrolled, individuals will consider only their own immediate benefit to the final extinction of "the goose that lays the golden egg."

The traffic in Antarctic blubber oils is on the increase. It has already assumed enormous proportions in the British sphere under the Governorship of the Falkland Islands; the gross value of the proceeds therefrom, for the year 1918 aggregating some £3,000,000 chiefly, however, derived from whale blubber oils. Fortunately, the killing in that region is prosecuted under certain limitations, subject to which licences are granted. Each year the Department of the Colonial Office dealing with those fisheries considers the situation in committee, and, having due regard for the maintenance of the species, determines to what extent killing may be proceeded with during the ensuing year.

It is to be hoped that all Governments concerned in the Southern Regions may be prevailed upon to take steps which will ensure the maintenance of the specialized life natural to those regions, which it has taken countless bygone ages to develop, so that such life may be available for judicious exploitation for all time.

In many aspects of the case the animal and vegetable life of the earth should be looked upon as international, for the extinction of a species is an irreparable loss to the whole world. If there is one matter particularly suited for reference to "The League of Nations," surely it is the preservation of the existing fauna and flora.

Measures should be taken to secure sufficient inviolable sanctuaries situated at suitable intervals and places over the Earth's surface.

MACQUARIE ISLAND PRE-EMINENTLY SUITED AS AN AUSTRALIAN SUB-ANTARCTIC FAUNAL RESERVE.

In the Australian region, Macquarie Island appeals pre-eminently as most suitable for a reserve for the sub-

Antarctic life. The chief arguments in favour of its adoption are:

1. It is more nearly in its natural condition as regards fauna and flora than any other available location.
2. It has always been the principal resort of the sub-Antarctic life of the Australian seas, and is ideally situated as a breeding centre.
3. Without harbours and situated at such a distance from the mainland, it is not reasonably suitable for regular human settlement.
4. The economic value of the Island will always rest, directly or indirectly, upon its native fauna. Destroy the latter and its value will be gone.

From what has already been said, it will be noted that the depredations of the sealers in the past have been responsible for irrevocable losses to the animal population. The case of the Fur-Seals and of the Flightless Parrots have been cited. They are also responsible for introducing the cats, which are a most serious menace to all the bird life. Further, the King Penguins have been so enormously reduced by slaughter that their final extinction is threatened. Other species have suffered to a less extent.

The present lessees may hold that their killing does not diminish the population, but such would be a very unconvincing argument after the sad experience at the hands of earlier sealers. The Tasmanian Government has no curator to advise them, nor any laws restricting the slaughter, nor still further any method of enforcing such laws should they exist. Under these conditions of exploitation it is unreasonable to suppose that the best measures are being taken by the sealers to preserve the Island fauna for future generations.

SUGGESTIONS FOR THE REALIZATION AND CONDUCT OF THE SCHEME.

It would appear that the best thing that could happen would be a transference of the Island from the Tasmanian Government to the Commonwealth Government, with the assurance that proper measures be taken by the latter to ensure the maintenance of the life in undiminished numbers. If the Tasmanian Government,

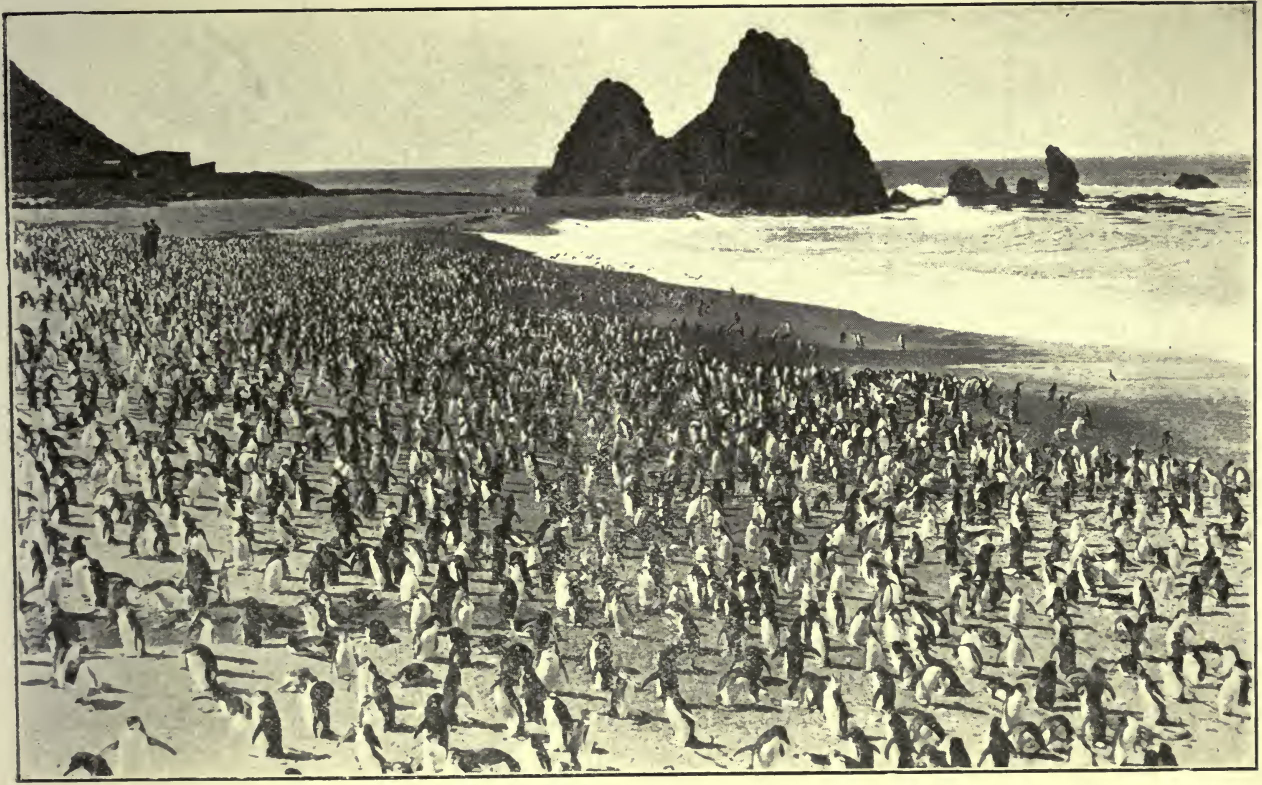


Photo *F. Hurley*

Royal Penguins thronging the Nuggets Beach
(At Finger and Thumb Point).

having due regard for the benefit it would so bestow upon the future cannot afford thus to hand it over, it is to be hoped that the way can be smoothed by some financial consideration from the Commonwealth Government. Considering the object in view, Tasmania cannot in fairness ask in return a greater sum than the capitalized value of the rent paid in the past for the lease to the sealers. The Commonwealth Government, with its greater facilities, would certainly be better able to deal with the proposition.

Two alternative schemes for the future recommend themselves. The Island to be kept either as a national faunal reserve without any commercial exploitation whatever, or else, whilst still maintained as such a reserve, a moderate amount of exploitation might be prosecuted by a Government Party or under the direction of a Curator appointed to look after the interests of the animals. It is probable that in this way a considerable yield of products could be gathered from the Island each year, without reducing the population—no doubt at least sufficient to pay for its upkeep.

It is very desirable that the Wireless Station at the Island, now temporarily closed down, be again put into commission, with a view to the transmission of weather reports and shipping news. The officer appointed in charge of such a weather station could also act *pro tem.* in the capacity of curator of the animals, and transmit necessary information to the Zoological Committee appointed to advise the Government. So that the two establishments—a meteorological station and a faunal reserve—would work in well together.

In connection with the second scheme for maintaining the Island, I would suggest the following amongst others as suitable activities for the curator:

1. To see that only the redundant bull elephants or decrepit animals are killed for their skins and blubber.
2. To kill any Sea-Leopards that come ashore, for they are very destructive amongst the penguins and other seals, whilst their numbers in the Antarctic seas are so great that there is no fear of their extermination. Their skins and blubber are valuable and worth collecting.

3. To reduce the number of skua gulls, which birds have increased far beyond their proper relative numbers owing to the abundance of carrion, their natural food, made available to them by reason of the sealing operations. The skuas are very destructive amongst other birds, particularly the night-flying prions and the young and eggs of the penguins.
4. To investigate the possibilities of a penguin egg industry on lines consistent with the continued maintenance of the penguin numbers. It is my belief that more value will be forthcoming from the penguins by farming them for eggs than by melting the birds down for their oil. The dried egg substance should bring a good price anywhere in the open market. The smaller species of penguin, though normally laying only two eggs, will generally lay a third if the first is taken away.
5. To reduce and, if possible, exterminate the wild cats on the Island.
6. To breed a few sheep to meet the needs of the station, such sheep to be penned within a limited area, where they will not interfere with the native fauna.
7. The introduction of the Fur-Seal and possibly other fur-bearing animals. Should fur-bearing land mammals, such as foxes, be bred, the greatest care would need to be taken to secure that on no account any escape from captivity, or they would deplete the bird rookeries. Should, therefore, either sheep or foxes be bred on the Island, in order to avoid seriously imperilling the native fauna, it will be necessary to confine them to the north-end headland. An effective barrier to their southward migration could be made across the low spit connecting the headland with the mainland.

ACKNOWLEDGMENTS.

I have personally pressed* this matter from time to

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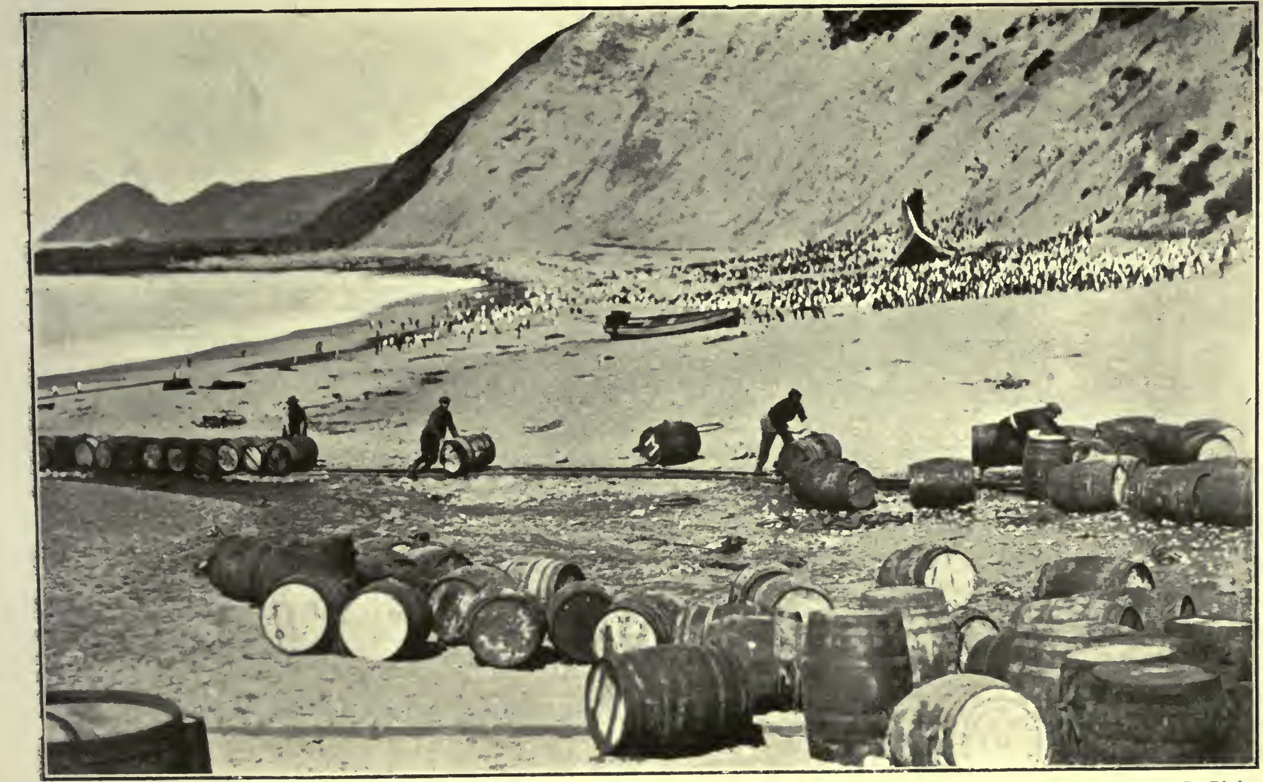
* "A Southern Metropolis": Lady Galway Belgium Book; Hussey & Gillingham Ltd., Adelaide, 1916.



The New Zealand lessees operating at the Nuggets Beach

Photo: *R. Blake*

time since the return of the Antarctic Expedition, and many animal lovers have taken the matter up. We are indebted to the Governor-General, Sir Ronald Munro Ferguson; Sir Baldwin Spencer, of Melbourne; Mr. H. G. Wells, the novelist; Mr. Cherry Garrard, and Dr. Levick, of the last Scott Expedition; Members of our own Expedition; and many others. Recently the Council of the Royal Zoological Society of London* forwarded the following resolution to the Commonwealth High Commissioner in London:

> "The Council of the Zoological Society of London have received with great concern the continued evidence as to the rapid disappearance of the unique and beautiful fauna of the Antarctic Seas. They fear that the conditions of war, producing an increased demand for fats and oils and an inevitable relaxation of protective measures, have pressed with severity on the Elephant Seals and Penguins, and on the few remnants of the Southern Fur Seal.
>
> They venture to hope that the Commonwealth Government, which has already done much to encourage preservation of Australasian fauna and flora, will take into immediate consideration the possibility of increased protection for the Antarctic and sub-Antarctic fauna and flora.
>
> They have heard with deep interest of a suggestion that, were Macquarie Island made a reserve for birds and mammals, this step might lead to the preservation of some of the most interesting types of life. From the information at their disposal, they support this suggestion warmly, and they trust that the Commonwealth Government will give it early consideration.
>
> The Council request that you will be so good as to forward this communication to your Government, and will be further grateful if you are able to support it by your personal recommendation."

It is sincerely to be hoped that Tasmania will be moved to adopt the best measures to secure the future of the population of that southern metropolis.

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*Following my address to that Society in February, 1919.

SOLDIERING AND SETTLEMENT IN BRITISH EAST AFRICA.

Lecture by Major Newland, O.B.E., &c.

June 22, 1919.

Major Newland began by having a map of Africa thrown on the screen which gave the company a fair idea of how far the octopus tentacles of the Hun had been operating in Africa during the recent war. It showed quite clearly that saving for the small country of Abyssinia, Germany had designs at the commencement of the war on practically the whole African continent. He showed a fine series of pictures representing the stages by which British East Africa had been changed from jungle and forest to a fair and smiling civilized country. In his lecture some years ago about British East Africa what he had talked about was chiefly his dream for the future, and he was now proud to be able to say that his dreams had materialized far beyond his wildest dreams. The first views were of the town of Mombasa, including the ruins of the old Portuguese fort. The old town was simply a muddled mass of buildings, with the new town rising fair and stately in its midst. Later there was a picture of the magnificent stretch of wharves and railway sidings, which, he said, were quite the equal of anything in Australia. From Mombasa the audience were taken to Nairobi, which has a fine railway station now in place of the shanties and tents he found on his arrival there 16 years ago. The town then was merely a collection of iron and wood huts! now it was an imposing place, lighted with electricity, with telephonic and telegraphic communications stretching in all directions, and all of the very latest types. The picture of the main street of Nairobi showed a modern street, and in place of the rough track of those days there was a fine macadamized road. When he first landed there were no banks; every man carried his wealth with him in his pocket, or gave it to his native boy to carry. Now they had a fine bank and a fine G.P.O. The club was a good one, and men and women shared alike its hospitality. In 1901 the solitary policeman was a fierce-looking native; now they had a smartly-equipped fine body of men. Next were seen views of the country round, indicating how well hemp, coffee, maize, and even wheat grow. The coffee is equal in every way to that grown in any part of the world.

The forests, Major Newland said, were a great source of revenue, for British East Africa supplied timber to countries as far distant as Russia. The cedar, for pencils, was excellent, and the hard wood was in great demand for railway sleepers all through Africa. An English Commissioner has valued the forests of British East Africa at £25,000,000. Wheat grew well at Njoro at an altitude of 7,000 ft. above sea level. At one place there was over 3,000 acres of country under wheat, although it had been said repeatedly that wheat could not be grown in the tropics. They were able to grow sugar, not only for themselves, but also to supply other parts of the world. Maize, beans, and all kinds of cereals grew well.

One great feature in the development of the country was the conservation of water for electric light purposes, for machinery, for engineering purposes, and for irrigation on the farms. Some of the falls in the country were very beautiful. Railway extension was going on rapidly, and soon the people of Nairobi would be able to take the train to snowclad Mount Kemi and spend their holidays fishing for trout and shooting elephants in the forests.

Here the lecturer broke off into another vein and gave a graphic account of some of the difficulties the pioneers had had to encounter. The country was almost on the equator, and had it not been that they were able to defeat them the Germans there would have been able to do irremediable harm. Had they established a submarine base on the seaboard, it would have been impossible for reinforcements to go to Europe from Australia either by the Cape route or the Suez. The capture of German East Africa practically gave Britain a clear run from Cairo to the Cape. With regard to the campaign in German East Africa, Major Newland spoke of the difficulties the troops had to encounter in the shape of the tsetse fly, malaria, and torrential rains. The King's African Rifles had done wonderful service in the campaign. Once the enemy almost broke through the British lines. When reinforcements arrived they had a bad time, and hundreds went down daily through malaria and the tsetse fly. The darkest days were in 1915 and 1916-1917, when it seemed as though the Germans must break through, but reinforcements came up, and the situation eased a little. The British fought on until 1918, and when the armistice was signed they had accounted for half the German force, and the other half then surrendered. Major Newland said Africa was a fickle mistress, but when she called a man had to answer, and it was up to England, now the pioneers had done their best to hold the country, to do her best to keep it.

The lecturer concluded as follows: . . . . . . "At the end of my soldiering, the head of our Administrative Services said to me: 'Newland, we have always picked you for the dirtiest jobs going!' I believed him, and looking back over 20 years spent in British East Africa, it seems to me that more difficulties than successes have come my way. And that is the charm of Africa. My experience is that the men who love her best are those who have fought hardest for her. I have been called an adventurer, and have been told that the time has come to settle down in a civilized country. Gentlemen, some of you know what it is to conquer a country—to reach the tops of mountains and see an empty world. The problem of Africa is one of the greatest in the world. Do you wonder that some of us are keen to tackle it?"

REMINISCENCES OF PIONEER LIFE.

LECTURE Delivered by
MR. SIMPSON NEWLAND, J.P.,
Before the
S.A. Branch of the Royal Geographical Society of Australasia, on October 17, 1919.

My first recollections are of Encounter Bay. The first night on shore the women and children were lost in the bush, caused by a drunken bullock driver losing his way between the landing place, now Victor Harbour, and the encampment at Encounter Bay. There was an accident to the dray, and the driver departed with the team, leaving the party of women and children with the vehicle. A rescue, of course, followed, after a long interval of apprehension from imaginary evils, but to them very real. The aboriginal savages, the wild dogs magnified into wolves, and nameless other terrors presented themselves to the excited imaginations of the lost.

The serious aspect of life began early for the young among the old pioneers. Few were too young to be useful in some way; and I scarcely remember when I was not employed about the place somehow. Later there were cows to mind, sheep to shepherd, and the thousand and one things to attend to in a new settlement.

Encounter Bay.

The Encounter Bay tribe of aborigines, the Ramingaries, were early of great interest. Their wurleys were on the beach near the Whaling Station, and along the coast towards the Inman River; from there, upon rough platforms in the branches of a line of trees, were laid the remains of a number of their dead. That was the first disposal of the corpse; later it was secretly buried, so secretly that so far as I am aware no white ever knew where. I believe, as a peculiar honour, some were for a time placed over a slow fire. I certainly was a spectator of one such process, which made a lasting impression upon me. The corpse was placed in a sitting position on a cross beam about two feet over the fire. Such customs, I believe, were peculiar to the Ramingaries.

I believe that neither the Ramingaries nor any of the Southern tribes had either the boomerang or the stone tomahawk when the whites arrived. Personally, I saw nothing of the boomerang until my first overland trip from Sydney, nor of the stone tomahawk until I went to the Darling. In proof of this there were no marks on the trees anywhere in the South so common in Riverina showing opossums had been hacked out of hollow limbs.

Encounter Bay and The Whalers.

There was one subject of enthralling interest to a boy, and that was the whaling and the whalers. As I grew up I seized every opportunity of watching the pursuit of the great game and talking with the men. It was a favourite place to take the sheep about the Bluff, and mount up to the flagstaff on the top, where someone was all day long on the "look-out for whales." There and elsewhere were yarns to be heard. Sturt's coming down the Murray to its mouth; Barker's death there years after; Judge Jeffcott's and Blenkinsop's being drowned there with other men; and then something might be said about Yorky. "Did he swim the mouth, or try to do so? What became of him?" That was the absorbing mystery. And some thirty odd years after, when I was canvassing the district of Encounter Bay or Kangaroo Island, then part of the Electoral District, I stayed for the night at the house of an old whaler, and in conversation he asked: "And what has become of Mr. Jones?" I replied: "He is dead." "There, now," he said, "I will tell you what became of Yorky."

Yorky Mystery.

He did swim the Murray Mouth and came up to the Whalers at Encounter Bay, and they first hid him behind the Bluff because he feared the police were hard after him. Later they attempted to take him to Kangaroo Island, but rough weather came on and they landed him on West Island, and when the weather was favourable they took him over to Kangaroo Island and put him on board an American whaler, and that's the last I know about Yorky." "Well," I said, jokingly, "and what did you get for your share for getting him off?" "Oh, nothing," he replied, "I was only the boy in those days, but I don't know about the others." Later Sir Henry Ayers told me there was then a reward still offered in the Adelaide Police Office for Yorky's apprehension.

I should have prefaced these remarks about the Yorky episode by stating that there had been rumours of shooting of the blacks by the settlers of the Tatiara district because of their killing and stealing sheep, and some cases of attacking the shepherds. They had even taken possession of whole flocks and driven them away and broken the legs of numbers so as to easily obtain them as wanted for food. The shepherds were frightened to go out alone, as several had been wounded and others were reported killed. There was practically no protection afforded the whites by the Government, and therefore it was not surprising that they took their own measures to protect their men and property. There was no doubt that a settler had Yorky engaged with him in a conflict with the blacks, in which a number were killed. It was a serious affair, and the settler, fearing Yorky would turn Queen's evidence when the threatened prosecution followed, determined to send him out of the country, hence his flight on horseback across the Murray Mouth to the whalers at Encounter Bay.

Now will you follow me 700 miles up the Murray and Darling.

New South Wales, River Darling.

The Darling Tribes of aborigines were numerous, but I shall only to-night deal with those with whom I came most in contact.

The River Darling was called by them the Parka, and the aborigines generally the Parkengees. The particular tribe of the country forming our runs and country adjacent, including the Mount McPherson Range, were the Wompangees, divided as follows: one part called the Muckquarries, the other the Keelparries. They inter-married, but a Muckquarrie must not marry a Muckquarrie or a Keelparrie a Keelparrie, under the severest penalties. The ancient law, an eye for an eye and a tooth for a tooth, practically obtained amongst them. There was another custom also, of very old times and ancient writ. If a brother died leaving a widow, a surviving brother must marry her, presumably to raise up seed to the defunct. Here is an instance to the point.

Old Manum.

Kitty was left a young widow by the death of the brother of Old Billy, better known as Manum. He in vain pressed his rights upon Kitty,who preferred younger Jack to older Manum, and would have none of him. The tribe supported Manum as bound by the law. No doubt that before the intrusion of the Boree (the white man) the matter would have been summarily settled. Under the change of the times Manum appealed to the Boree (me). Plainly and warmly he stated his case. Kitty was obdurate to all his blandishments and the commands of the old tribe men, and the only resort was personal correction with his waddy. I objected, fearing the mildness of Manum's correction. However, I gave way to repeated assurances that mere taps should be administered. The following morning Kitty appeared, a decidedly pitiable object, and with loud wailings denounced Manum and reproached me. Manum now appeared and protested that a second administration would bring Kitty to her senses and his wishes. I said: "No, you old rascal, no more of your waddy; you leave Kitty alone or it will be the worse for you." And Manum did. He accepted the position, and she clung to Jack, who also accepted the position—I am bound to say not too graciously.

Spearing Fish.

Spearing fish as practised by the Darling River blacks is not known anywhere else in the world, so far as I am aware. The water of the river is coloured until at a comparatively low ebb, when it becomes quite clear. Then is the natives' opportunity, and they assemble where there is a deep hole. If the weather is cold a fire is made on the bank; they strip and anoint themselves as a protection from the cold. Then, thin iron spear in hand, they swim out, raise themselves upright, tread water, and disappear feet foremost. The next thing you see will be a fish transfixed on the end of the spear, followed by the black head of the operator, who seizes the fish and flings it on the bank, and presently repeats the process amid much enjoyment.

Duck Catching.

Nets for the purpose were made in the old days out of grass, but on the advent of the white man his hanks of twine served the purpose with much less trouble. Long wide nets are hung on a thin line over a stream or a certain distance into it; at certain times when the ducks fly up or down, either driven by the blacks or for their own purposes, the nets are hung; blackfellows set at the nets with a few bushes to hide them, and a few pieces of bark cut for the purpose. The nets are held in position by the land ends of the suspending ropes being tied to pegs thrust slightly into the ground. As the ducks fly close the black throws high a piece of bark and whistles loudly like a hawk. The ducks dive down to escape, and into the net.

The Wampangees had their superstitions and traditions. They believed that spirits in the form of a snake infested some deep water-holes in the Darling that it was dangerous to bathe in, and in case of accident or fatality they were prompt to ascribe it to the Nittrie, the demon in question.

They also believed that rocky portion of the McPherson Range was haunted by the spirits of the Mullies, an ancient tribe that their ancestors slaughtered. When I first went there it was with some difficulty that any black would accompany me in the Range, and on no account would one pass a night there. When later compelled to do so he would not leave the fire. Older men would tell me they could hear the yells of the Mullies. When I would say "I could not," the answer was "That

I was a white man and the Mullies were not after me." Often, in case of sudden illness of one of the tribe, I would be told that the Mullies had been about and struck him in the night.

On a later occasion, when out on the back of the run with a party of blacks and a flock of sheep forming a sort of camp in new country, we found a big deep cavity evidently scooped out by the wind, in the soft sand round a dead murpa bush, and at the bottom of the cavity a considerable number of skull caps or helmets formed of "copia."

They were of various sizes, some too big to fit on my head, but most too small; many were broken, but plenty remained to make a selection from. I was surprised, what could they be? An old black, however, gave his version. We were on the ground where his tribe long years ago killed the whole tribe of Mullies, and these copia head coverings were made by them in their dying agony to cover their heads in the burning heat. The old fellow described the slaughter in a most realistic way. He also told me where the skeleton of a Mullie was, on the margin of a small salt lake not far away, but I was never able to find it. Before I was able to remove the copia helmets they disappeared; I have no doubt hidden by the blacks from superstitious motives. Altogether it was a most singular experience. Certainly they did something with them, probably buried them again, though I told them not to touch them, as I would bring a cart and take them away.

The old black also told me that the skeleton of a Mullie was still on the margin of a salt lake some miles away, and I searched for it in vain.

Nancy Incident.

Another incident relative to the laws and customs of the Darling aborigines is as follows:

A little girl, who was known as Nancy, was taken to wife by a fellow called Tommy, who killed her a few weeks later by a sudden blow, and then fled for his life, knowing what the penalty was for such an act. A number of the men came to me, told me what had occurred, and pointed out that according to their law and custom the nearest of kin, accompanied by two or three others must follow him up and kill him. I at once consented, but pointed out that the nearest relative in this case was a cripple, having a much bent leg at the knee. They said he was the man who must strike the first blow. He had to and would do it. And away they went to track up the murderer. To me it seemed a long if not hopeless case, but the old law had to be carried out, the old penalty paid, an eye for an eye, a tooth for a tooth, a life for a life inexorably paid, and in due time, a much less time than I expected, they returned, and Tommy was never seen or heard of again.

Barfoo, Chief Man of the Wampangee Tribe; Baldie, of the Upper Paroo Tribe.

There were two aboriginals absolutely irreconcilable, one Barfoo, chief man of the Wampangee Tribe; the other, Baldie, of the Upper Paroo tribe.

Barfoo would hold no intercourse with the whites, neither use their food or clothes or tobacco, or touch liquor. He certainly never spoke to me or acknowledged me in any way. Indeed, if I surprised him in the camp he preserved what might be considered a contemptuous silence. I have known him go so far as to spit on the ground, a very suggestive gesture of what he thought of the individual. However, I was never the recipient of any act of hostility on his part. Indeed he no doubt had accepted the position as beyond his power to remedy, though he always retained his defiant demeanour.

Old Baldie.

Old Baldie was the chief man of his tribe, and would on his part have nothing to do with the whites, except in a hostile way. I knew that he was most of the time in the camps of our native shepherds, but I had sent word to him that if he did not trouble us we would not interfere with him, and he never did to my knowledge. Still, like Barfoo, he would have nothing to do with the whites. I never saw him. A neighbouring squatter vowed he would shoot him if he got a chance, they indeed had had one fight and Baldie took care not to have another, probably recognising that his waddy and spear had no chance against the white man's revolver.

Old Toby.

Old Toby was a native gentleman. He and an Irish shepherd were two of the most gentlemanly men I have known. Old Toby was as simple as a child, and as gentle. Nevertheless, he was brave as a warrior should be to face every evil. On one occasion I saw him in full war aboriginal panoply. A tall upright figure arrayed and adorned in feathers and paint. There was a strong north gale blowing with whirlwinds (Willy Willys) careering straight across the plain for the station, threatening damage, if not destruction, at any rate, so thought the brave Toby, who appeared, a striking figure, weapons in hand, to bar the way. There was one especial whirlwind rapidly approaching, tearing leaves and limbs from the trees, and Toby took his stand in its course near the store most threatened. He stamped, danced, and flourished his weapon, defying the whirlwind, every moment increasing his efforts as the whirlwind came nearer, but never yielding a foot. It just missed the store, but caught a few empty cases and whirled them aside and passed on. Then Toby emerged triumphant, appearing to me as one having achieved a great thing. Had he vanquished the wind fiend and saved the station buildings? Of course he had, the valiant Toby.

Neil Monaghan.

The other gentleman of the two mentioned was an Irishman, Neil Monaghan by name, a shepherd with me for many years, and only left to go to the Bourke hospital to die. A charming character, gentle as any woman, and without a fault. In my many journeys around the run, ration carrying, and on other duties, I often used to camp with my old friend Neil, and enjoyed a "pitch" with him. On one occasion I came upon him in the middle of the day, his flock of sheep camped, and old Neil was lying down in great distress. "Why, Neil," I said; "what is the matter?" "Oh, Mr. Newland," he said; "I am going to die." "Die?" I said; "why should you die?" "I've been bitten by a snake. It was this way. I was lying, face down." "Asleep?" I said. "No, no, only dozing" (when did a shepherd acknowledge he slept in the daytime?)—"and suddenly I felt a weight on my back, and there was a snake's head darted at me, and I looked over my other shoulder, and there it darted at me again, and I lay there and sweated and sweated, and did not know what to do." "Well, Neil, and what did you do at last?" "Well, I called to my dog, only in a whisper, you'll understand, and I thought he would never hear me, but he did, and came, and the snake slid off me back and went; but he bit me first." "But there is not a mark anywhere." "And there mayn't be, but he bit me, and I'm going to die." But his imagination carried him too far; he did not die of that snake bite, anyhow; or until some years after.

Two Experiences: Camping and Boating.

On my return from Adelaide after delivering a mob of fat cattle, I met a big flood in the Darling. The country miles back from the river was flooded. At Mount Murchison, now Wilcannia, I picked up on the track two of the men who had gone with me with the cattle, a white man and a black boy, and together we went on, keeping outside the flood waters. As the horses were poor and had a heavy spring cart to drag, our progress was very slow; on the morning of the second day I decided to take the best horse and ride on, expecting to make the back station in the evening. I knew it was about 50 or 60 miles, but as I had not then seen that country in flood my knowledge was somewhat superficial, as indeed it proved, for as night fell the track led me across a vast plain intersected by a number of flooded creeks, all boggy. One after the other I crossed, some very deep. In the distance I could see the back station, a hut and sheep yards, and so struggled on with a nearly knocked-up horse, and at last crossed the plain on to firm ground, but saw before me at least half a mile of water, much of it very deep, and running a torrent out into the back country. Unless there was a blacks' canoe at the place my crossing was impossible, for I knew there was no boat on the station. The alternative was camp where I was for the night, retrace my way across the plain and its flowing creeks, probably much deeper in the morning, and head the flood waters, however far they might have gone. I was wet and hungry, having had nothing since morning—I was not as seasoned in those days as subsequently—and the prospect was not pleasant. I could see bright fires over that half mile stretch of water, over which no returning canoe was coming, and I had no matches, at least, I believed not. Accepting the position, I had hobbled and turned my horse out. I searched my pockets one by one, and at last found one half match but it was damp. Have I not said I was wet? That match was precious, and must be dried before attempting to strike. I took the two stirrup irons from the saddle and rubbed them alternately in the sand until warm, then placed the half match on, and kept the process up until that half match could not be other than dry. There was not a shred of paper, but dry grass and leaves, which were so prepared as to kindle into flame at a touch of fire, and it was so when the necessary friction was applied that half match flamed, and the fire was lighted.

The night passed by a good fire, without blankets and without food, and in the morning there was nothing for it but to return and meet the men with the cart. About midday they met me, and I had a welcome meal, and then we proceeded to round the flood, which proved a less distance than anticipated, and the camp was reached that night.

There was no boat or canoe of any kind, and communication of any kind with the head station was cut. The matter was serious, as rations were almost exhausted. Something had to be done, and it devolved upon me—what? An old bullock was said to be on the back of the run, and a day was lost in vain looking for him, to get his hide to make a boat. Then I turned to the body of our cart. Took the wheels and axle off, lashed our two water kegs, one in front and the other at the back to float it. That done there was a craft, the most awkward clumsy thing I have ever been afloat in. A pole was the only means of propulsion, and there were 10 miles of water to cross, with a current setting down most of the way. I took a black boy, Dick, with me, and in the early morning we started, toiled all day, much of the time where the water was shallow enough to admit of us wading and towing or pushing the craft, and camped for the night on an island sandhill, where insect and small animal life abounded. Indeed every bush and tree served as a refuge for some living thing, creature or creatures. We had accomplished about half the distance, made a very early start, and as the first day we had walked against and crossed the worst of the currents, our progress was easier and faster, so that we arrived at the station at about mid-day. The craft had been water-logged all the way, in which condition we could not expect to safely convey stores back with us. It had to be made fairly water-tight as well as raised on the kegs. This was so far successful that I was quite pleased with the result, enabling us to take back quite a good supply of flour, sugar, tea, and other supplies. We made an early start, and the trip back was accomplished in one long day, there was not so much current against us, and the craft was easier managed loaded than empty. A big fire was lit to show the way when darkness came, and we carried on till we arrived. The craft served the purpose, but was the most difficult to manage of any in my experience. A black's canoe on the contrary is a pleasure, and I consider myself a judge, being an expert in it. As the flood subsided we got quite a fleet of canoes, and the communication was easy.

IN EARLY DAYS.

The Man with Broken Legs.

One summer morning I left the Paroo to ride 70 miles to Marra Station, on the Darling. I shortly passed a mob of travelling sheep, and a few miles further on found a cart left on a sandhill, in which was a man and his wife, the former with both legs badly broken. In great distress they appealed to me. They said they were left there by the driver, who had taken the horse out, and said he would go on to the spring and bring back water. I said, "I will ride on and make him come back and take you straight on, the spring is 20 miles away, and as he, you tell me, is walking and leading the horse, and with only an open dish to carry water in, his attempting it is out of the question. I will tell him," I said, "that he must take you on to the spring without stopping, and I will send out there some conveyance to take you on to the

Darling." I pushed on, and soon overtook the man crawling along leading a horse, with an open tin dish to bring back water 20 miles. At first he declared he would not go back, the water was near, that he and the horse wanted a drink, that he could not stand the woman's complaining, and a lot more. "Anyhow," I said, "you must go back, your only chance is to go back and bring them on; at the pace you are going you will about die before you get to the spring. If you go back and bring the cart with them on, keeping steadily on, you will reach water to-night, the lot of you, and I'll send a trap there to meet you and take them on to the river." He was a low-class ruffian, but he gave in, and I saw him on the way back, and he did take the unfortunate couple on to the spring, meeting the conveyance I sent out from the Darling. I arrived at Marra in the afternoon, having ridden fast in, and at once arranged with the owner of a wagon to go out and bring the couple in from the spring. He did so, and arrived the next day. He, however, absolutely refused to take them on to Wilcannia, another 70 miles. I was now in a difficulty. I had no vehicle except a bullock dray and heavy wagon at the time on the station, and no draught horses, they being away. To make matters worse, the man who brought the unfortunates in from the spring, came the next day and insisted on them being taken out of his wagon, which I absolutely refused to permit. The injured man now suffered greatly lying in the wagon, particularly at night, though I had supplied some blankets. On the following day one of the station men returned with some (two) draught horses, and I at once started him off with the wagon in which the couple were, and let the owner take his remedy. I gave the driver some laudanum, with instructions both to him and his wife on the road, first giving a good dose before they started. I also told the driver that he must turn a deaf ear to entreaties to stop, that as he could only go slowly he must keep going. Also supplied them with necessaries for the journey. When I bade good-bye to that woman, soon to be a mother, I saw a look in her eyes that only shines in the eyes of the grateful, when words are not, and cannot be uttered. They arrived safely, and that man, wonderful to relate, became a sound man, both legs a compound fracture. I never saw either of them again.

The Man with a Liver.

Mr. Hasel (see "Paving the Way") was a character with a very violent temper, and many charms. A great friend, he often came to stay with me. We were mutually very candid. He frequently impressed upon me "that I would certainly become a very cross old man." The obvious retort was, "You are that already."

Here are two characteristic incidents—

When storekeeping on a lonely back station, one morning a bushranger appeared at the door, revolver levelled. "Bail up or I'll blow the so and so roof off your head." (The old man's liver was extra bad that day.) "Blow away and be d——d, I'd as soon die as live" he retorted. It was too much for the bushranger; he lowered his weapon. "If you will promise not to attempt to take me, give me some breakfast, and send for the horses so that I can get one it will be all right," and so all ended amicably. Another incident. When on a river steamer he fell off into the water, and it is said he went straight to the bottom. It should be explained that he could not swim a stroke. Then he thought, "I won't be drowned, I'm d——d if I will," and he struck out and came to the top and was picked up.

The Henfrys.

Our cooks were usually men, and bad at that, except an occasional Chinaman, but when a man appeared driving a horse with cart and woman with two children, I had a makeshift only. They offered their services, which I declined, I scarcely remember why, for the man appeared of the right sort. They bought some provisions, camped in the bend of the river for the night, and were starting on their way when the horse "played up," ending by breaking a shaft, and greatly frightening the woman. The man then asked me would I lend him tools to put in a new shaft. "Of course." I then saw that he was a good bush workman, and might be of great use on the station. Meantime the little woman had come up to the house and offered to do a variety of things in a bachelor establishment. It ended in their being engaged, the woman as cook, her husband as general hand, and they gave general satisfaction, and were thought a great deal of and valued. Shearing was in progress, about half a mile away, but I had returned to the house for the night, when there came a not unusual knock, and going to the door I found a man who asked to see me privately. I stepped on one side with him, and he then told me that the woman employed by me and living with Henfry was his wife. I was astonished. He said he believed that if he saw her privately she would go back to him, but he dared not let the man know or he would kill him. He begged me to let him speak to her. He vowed he only wanted a chance to persuade her to return to him. That and that only. I admit I was angry, I thought after years in my service they might have trusted me. Anyhow, I told the husband that he should see his wife in the morning, when Henfry had gone up to the shearing shed. Of course, I would be present.

In the morning, when appointed, the man appeared. I at once went to the kitchen door and told Mrs. Henfry that a man claiming to be her husband was come, and at that moment the fellow appeared at my shoulder. It was a dreadful surprise. There was a scene, a dreadful scene, and I heard enough to show what a brute the man had been. Go with him? That would never be alive. My patience, my endurance, were soon exhausted, and I told him to go, he had had his chance. "Send for Henfry first, and then I'll go," he said. We were standing outside the hut by the door (had been all through), and I turned to step to the house to send for Henfry, when piercing shrieks rang out. I was back in a moment to see the scoundrel rushing in the kitchen with his hand under his coat tails grasping a tomahawk. I was not much behind him, but he had dealt already some blows at her head, with but the poor defence of her arm held up. Then I tore him away, and we struggled the whole length of the kitchen before we fell, me uppermost. I wrung the tomahawk from his hand saying, "You d——d scoundrel." He flung his hands back saying, "I've done what I wanted —do what you like with me," and as I looked up at the bleeding, moaning woman crouched in the corner, I felt sure she was murdered.

Looking round for help, I saw through an opening in the slabs of the building the eyes of Miola, the aboriginal girl of "Paving the Way." I called to her to send the overseer. He came, and we handcuffed the villain, and I sent him out in charge of the overseer. We then raised the poor woman on to a stretcher, got some water with Miola's help, and bathed her head. There was one severe cut and several bruises on her head and arms, but I was relieved to find she was much less injured than I expected, though in great pain. I sent Miola for Henfry, she making me promise that I would not allow the men to meet. Of course they had to meet, but a safe distance was kept between them. The little woman had begged me to keep Henfry away from him or she said there would be murder. I said I must send the brute down to the police to stand his trial, but she entreated me to let him go. "She could not stand the publicity of a trial." And she got in such a state of excitement that I feared for her life, and it ended in his being set at liberty, and told to clear off or I would tie him up to the fence and flog the hide off him.

The first man I saw after all this was my old friend, the man with the liver. He met me with, "Well, you are a d—d fool, Newland." "What now," I replied, "Why, when you had that d——d scoundrel down and a tomahawk at hand, why did you not kill him; no one would have blamed you." "I would." He said, "I have nc doubt of it." I replied, "But then I am not such a fiery old sinner. Besides, he caved in." "Well now, he said, "you will have the thing hanging over the woman as well as yourself. He may turn up for his revenge, and he will, too." Well, I replied, "we will endeavour to be prepared for him in future."

A few days after a very good woman, the wife of a neighbouring squatter, made her first visit to expostulate with me for "keeping under my respectable roof a woman proved to be an unfaithful wife. Send her away, by the mercy of God you have not lost your life. Why should you risk it by protecting her," she pleaded. "Because I have saved her life, and will not go back on her now," I said, "she is a good little woman, shamefully treated by that brute. Believing that I am not going to throw the first stone. She wishes to stay here and she shall, and I will do my best to protect her. When in extremity she put herself under the protection and care of the man she is with, and who is kind to her, and since she has been here there has never been one word or whisper of evil said about her." So my friend departed, shaking her virtuous head.

Mr. Hasel requested to know what her errand was, and enquired, "Well, are you going to send her away?" "Would you," I asked. "No, I'm d——d if I would." "Neither will I," was the answer, and I did not; she stayed on the station and died there.

Swimming a Billabong.

One of my earliest experiences on the Darling was swimming a small mob of cattle over a Billabong from the frontage on to the back country as the preparatory step to collect a mob of fats for market. The rest of the party were already outside and Mr. Chesholm, myself and a black named Jack had to collect this inside mob, force them to swim over the stream, make our horses follow them, and then follow ourselves, for we had no boat. The cattle gave little trouble, and the horses, Jack went first to catch them when landing. Then came the turn of my friend and myself. My experience in swimming rivers had not been great then, the Billabong was to me formidable, besides we had to carry our clothes on our heads. However, I looked on Chesholm as a good strong swimmer, and he was my boss, and it would not do for me to funk it. There was a tree some way in the water, so we made that the first stage, and there took a spell in or on its branches. Chesholm then said, it was ugly work, or words to that effect. "I'll go first and see what it is like," and away I went with the current a good deal, but when in the middle the wind meeting the fast current made the water rough, and I almost doubled my powers, but when through that, I had no difficulty further. Then I heard Chesholm call out, "I cannot do it," and looking round I saw he had thrown his clothes off and was floating down stream. I shouted to Jack to go to his help, and he went with a rush and a long dive from the bank like a black or brown streak, and came up under Chesholm, who put his hand on his shoulders, and out they came. It was splendidly done. That was not all, Jack ran down the stream, dived again, and reappeared with the clothes.

For a time Chesholm looked serious, but Jack looked upon it as a joke.

A Night Ride.

I once thought I could not be lost day or night; I soon learned to the contrary. I was returning late one night from the back country, very dark with misty rain. Came to a sheep yard I knew well on the edge of a wide plain, took my bearings confident of crossing it, but found myself back at the yard, vexed, started again with not a doubt, again found myself back at the yard. Once again determined to cross that plain. Did not get back to that yard, but did not cross that plain, unsaddled, hobbled my horse, and sat down to watch the moon rise. It seemed as if it never would rise, and when it did it was in the wrong place; anyhow, it was not where I was looking for it.

A Coaching Incident.

I could give many experiences of coaching journeys between Adelaide, Melbourne, and Sydney, travelled again and again, day and night going. Here is one that might easily have been the last. From Adelaide to Wentworth it was just the usual thing, only we were behind time some hours, and had to start off at once. Our driver I knew well as one of the best, Andy Blake by name. He made good progress, and by nightfall arrived at the last stopping place before reaching Pooncarie. On the way I had heard the driver say he hoped we should not have the mallee mare at the change, but I did not give the matter another thought; we finished our supper, when came the call, "All on board," and hurried out into a dark night, and mounted into the box seat with my friend, where sat Andy Blake with four plunging horses before him, held in check by several men. "Let them go," was the word, and they went with a bound, the near leader a grey in particular high in the air, that broke the coupling of her swingle bar, and her consequent forward impetus twisted the driver off his seat, who fell down among the heels of the horses, and the reins and driver gone, the horses went at a mad gallop into the night. If they kept straight on, I knew they must fall over a steep bank into the Darling, the alternative being a forest of gnarled box trees. Under such circumstances one thinks quickly. I jumped, and my friend followed. On my feet first, I was next on my head, saved by a stiff hat driven hard over ears and eyes, and maybe by a serviceable thick skull.

Somehow I saw my friend come and roll spinning along the ground. I went to him; he was insensible, and I called for help, and Andy Blake came. He had fallen between the wheels, and was not hurt. We got my friend up, and he staggered to the house, into a room, and again became insensible, and died before morning. Andy went off for help to Pooncarie, but no doctor could be got at such a place. I shall never cease to think of that night with horror. There were a number of men and women, and all seemed to get all the enjoyment possible out of an excess of liquor.

A steamer came up the river in the morning, and I asked the captain to take the body on to Pooncarie, which he kindly did.

How we Broke up the Mt. Macpherson Wild Mob.

It was a mob of wild cattle that for years could not be got out of the thick mulga scrub. Many is the hard ride I have had after them, generally in vain, but occasionally capturing some. At last I determined to watch at full moon at a water hole they came to water at. It was about a mile from the thick timber, half a mile on the edge of a big plain. I chose a fine stock horse, Billy Button, with a white stockman and a blackboy. My watch was the last half of the night, as I did not expect the brutes to come early; when they did come they made not a sound until at the very edge of the water but I smelt the dust, and stole to the horses saddled ready, woke the men, and rode for them. They had bolted, and I started at a gallop after them on the rising ground, headed them on the very edge of the crashing timber, swung them round with a shout, then the men came up, and we raced them down on to the plain where we held them in hand till daylight, and took them with quiet cattle to the yard, and I took care they never saw their old haunts again. It was a wild mad ride, the last of many such during my life, on the Darling, and in early life in the scrub of Encounter Bay and in the rough country of Watpinga. And perhaps little in life gave greater enjoyment.

A Bushranging Incident.

I was up at our Paroo Station, on the border of Queensland one morning when the blackboy brought up the mob of horses. He came to me and pointed out on the opposite side of the plain, about a mile from the station, two men with saddle horses; they were dismounted. "Mine thinket that one bushranger," he said to my surprise. I suppose he saw they were armed. They disappeared, and I thought no more of it; we had no idea of bushrangers being anywhere near. Later came an officer of Queensland Black Police, with his troop, and asked if I could give him any information of suspicious horsemen passing. I then mentioned what the blackfellow told me. He said he would examine the spot, and did so. He said there had been a fight between the New South Wales police on the Warrego, a sergeant had been killed, and the two horsemen were evidently two of the desperadoes. Where they had dismounted was blood on the ground from a wound. They had by their tracks started down the Paroo, and he would follow them out of his beat. He did so, without success, and on his return told me he believed they had gone from the Lower Paroo on to the Darling. "Hope I shall not meet them," I said. "I go back on that track in a few days." I did, and found that they had stuck up the station, and handcuffed the overseer with my handcuffs I lost on my way to the Paroo. Had made themselves quite at home, helping themselves to all stores, &c., they wanted, and two or three horses. They made special enquiries about "The Boss," with threats as to what they would do to him had they caught him, take him out on the back for the crows to eat. Later they for a time robbed the river mails, then separated, and soon met the usual fate of such lawless desperadoes.

A Camp Out with a New Chum.

I left the Paroo Station with a new chum; I was in a hurry, rode long journeys, and camped out at night. The first night it rained hard all night, and we had no shelter. I felt it wisest to be still lying in a waterproof rug, or supposed to be so. Later in the night I noticed my young friend was restless, and by-and-by he sat on something close to a miserable fire, with a tin dish used for mixing dough for Johnny cakes and dampers on, over his head to keep the rain off. It was so ludicrous that I was unkind enough to laugh to myself. It was a bad camp; water and mud all round us, so at daylight we started for a well-known sandhill, where we made a good fire and dried everything. My young friend did not, however decide to continue Colonial experience.

A Ride in the Back Country.

I have told of an experience when there were no boats on the station. Some years after in bigger floods, we had two boats, one fitted with a sail in which we sailed far out on flood waters on the run. The floods on two occasions went out 50 miles, joined the waters of the Paroo and Culgoa, passing through the Mount McPherson Ranges, and down the Paroo channel into the Darling. It was astonishing the extent of country that was flooded, and the bird and animal life that existed. Water fowl in particular of many kinds I have never seen before breeding in trees and bushes, in the grass, and on the bare ground; eggs to be picked up everywhere. Riding out with two blackfellows, being in a hurry, I did not stop for lunch, but sucked our choice of new-laid eggs as we rode on. As the flood subsided there appeared millions of flocks of pigeons, breeding in the grass. When they disappeared with the fledged young, I never saw them again. The life abounding was truly marvellous.

A Trying Swim.

A later experience, in which my swimming powers were fully tested, occurred from a steamer in the Darling. A barge from her had been snagged, and was partially sunk against the river bank, somewhat lower down. I was on the steamer with some other passengers. At the time the thing happened I and one of the passengers in question, a lady, were alone on deck. She, perhaps unconscious that the iron guards round the deck had been taken down, stepped backwards, and fell head first into the water. I glanced round for a rope, but none was available. I then tried to reach her by holding on to the combing and holding out my foot, but failed, so dropped into the water and swam for her, told her to put her hands on my shoulders, and we would be all right, and then I made for the rudder hanging near down stream, and I would have reached it safe enough, only she in her fright climbed up on me, forcing me under. There was then nothing for it but to make down the stream to a barge. Meantime those on the steamer had given the alarm. I could not keep the woman up, though I could bring her to the surface frequently, and we both got a breath of air and were fast approaching the men on the barge. There was a rope thrown, and two men sprang in to come to help us; one reached up but was unable to give much assistance. I, however, caught the rope, and I still recollect the thought came, "which is the slack end?" Luckily I pulled at the fast end, and came up on the barge with the woman still clinging to me. Aboriginal lessons in water lore and swimming proved to be of some service to me.

The Mad Shepherd.

There was a shepherd I valued, quite a biblical scholar. Going with rations one day I met him in a great state of excitement. He told me that the sheep had gone mad, and had been chasing him for his life. I told him to go to the station and I would go to the sheep. The man stayed to be a trouble; made fires about nearly causing much damage, and when I had them put out he repeatedly cursed me vehemently with many of the curses of the old Scripture. At last my patience being exhausted, hearing a row in the men's hut, I went there and found him, butcher's knife in hand, with two of the station men. I stood in the door and told him I had had enough of him, and if he was not gone in the morning I would have him put on a horse and taken away. More furious curses, and he flourished the knife at me. I absolutely dared not turn away fearing he would stab me; I had to face him, but gave way on one side a little, and he dashed past and in the morning was gone.

Swimming Horses.

Having had some experience in swimming with horse over rivers, I have come to the decided conclusion that to ride on their backs is by no means the safest or best way. The weight on the back has the effect of pressing the hind part of the animal down, and then the rider is apt to rest his weight on the reins and pull the horse over or cause it to plunge rather than swim, and bring trouble and maybe danger to both man and beast. I have frequently had to cross, when alone, streams with one or more horses, and always of late years kept one in hand thus: Unbuckle the off rein at the bit, and keep them in the left hand, lead the horse into the water then; as he begins to swim, grasp the mane with the right hand and strike out with your feet so as to lighten the burden for the horse. If he inclines too much to the right keep him straight with the rein in the left hand; if too much to the left, as is perhaps likely, as your weight is on that side, gently splash some water in his eye.

The Mad Horse of the Mallee.

On one remarkable part of the Darling River, remarkable because there are not many cliffs, unlike the Murray, there, near Pooncarie, are some high rugged cliffs towering above the brink of the stream. Once upon a time, years ago, an old white horse went mad because of his appetite for the Darling Pea. The Darling Pea is a pretty flower, growing in the bends of the river, and horses not accustomed to it, and perhaps those that are, go cranky if they eat much of it. Anyhow, the old white horse went—shall we say, out of his mind—and took to the mallee scrub, so people who live or have lived in that part of the Darling say, and they ought to know. He went right away into the mallee, and only comes at certain times to drink, and if you go there then, and only then, you may see him. He does not go down to the river, but only to the top of the high cliffs and seems to drink, then back into the mallee again. I've never seen him myself, but then, possibly, I've not been there at the "certain times."

APPENDIX.

Form No. 1.

The Royal Geographical Society of Australasia

South Australian Branch
(Incorporated).

NOMINATION OF A CANDIDATE FOR MEMBERSHIP.

Name..

Qualification or Occupation..........................

Address..
being desirous of admission into the South Australian Branch of the **Royal Geographical Society of Australasia**, we, the undersigned members of the Society, propose and recommend him as a proper person to become a member thereof.

Dated this..............day of...............191

....

....

FORM OF LEGACY.

I hereby bequeath to the **Royal Geographical Society of Australasia,** South Australian Branch (Incorporated),

the sum of..
to be devoted to the objects of the Society; and the receipt of the Honorary Treasurer of the said Society shall be a sufficient discharge for same.

[illegible]

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